

### OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS

The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

File No. 17-103788-LO and 17-103759-WG

Project Name/Address: Primrose School TI at 1150 114th Ave SE

Planner: Reilly Pittman

Phone Number: 425-452-4350

Minimum Comment Period: March 13, 2017

Materials included in this Notice:

$\boxtimes$	Blue Bulletin
$\boxtimes$	Checklist
$\boxtimes$	Vicinity Map
$\boxtimes$	Plans

Other: Critical Areas Report, Delineation Report

### OTHERS TO RECEIVE THIS DOCUMENT:

- State Department of Fish and Wildlife / Sterwart.Reinbold@dfw.gov; Christa.Heller@dfw.wa.gov;
- State Department of Ecology, Shoreline Planner N.W. Region / <u>Jobu461@ecy.wa.gov</u>; <u>sepaunit@ecy.wa.gov</u>
- Army Corps of Engineers Susan.M.Powell@nws02.usace.army.mil
- Attorney General ecyclyef@atg.wa.gov
- Muckleshoot Indian Tribe Karen.Walter@muckleshoot.nsn.us; Fisheries.fileroom@muckleshoot.nsn.us

### City of Bellevue Submittal Requirements

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### **ENVIRONMENTAL CHECKLIST**

10/9/2009

Thank you in advance for your cooperation and adherence to these procedures. If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call Development Services (425-452-6800) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Assistance for the hearing impaired: Dial 711 (Telecommunications Relay Service).

#### INTRODUCTION

#### **Purpose of the Checklist:**

The State Environmental Policy Act (SEPA), chapter 43.21c RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the City of Bellevue identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the City decide whether an EIS is required.

### **Instructions for Applicants:**

This environmental checklist asks you to describe some basic information about your proposal. Answer the questions briefly, with the most precise information known, or give the best description you can. You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the Planner in the Permit Center can assist you. The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. Include references to any reports or studies that you are aware of which are relevant to the answers you provide. The City may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impacts.

**Use of a Checklist for Nonproject Proposals:** A nonproject proposal includes plans, policies, and programs where actions are different or broader than a single site-specific proposal.

For nonproject proposals, complete the Environmental Checklist even though you may answer "does not apply" to most questions. In addition, complete the Supplemental Sheet for Nonproject Actions available from Permit Processing.

For nonproject actions, the references in the checklist to the words *project*, *applicant*, and *property* or *site* should be read as *proposal*, *proposer*, and *affected geographic area*, respectively.

Attach an 8½" x 11" vicinity map which accurately locates the proposed site.

City of Bellevue Submittal Requirements

27a

### **ENVIRONMENTAL CHECKLIST**

12/21/00

If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.

#### **BACKGROUND INFORMATION**

Property Owner: Regency Bellefield Holdings

Proponent: Erik Peterson, Wallace Properties

Contact Person: Kenny Booth, The Watershed Company

(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: 750 Sixth Street South, Kirkland, WA 98033

Phone: (425) 822-5242

Proposal Title: Primrose Day Care Play Area

Proposal Location (Street address and nearest cross street or intersection) Provide a legal description if available:

1150 114TH AVE SE, Bellevue, WA 98004. Parcel 0662880040. Legal description is as follows: BELLEFIELD OFFICE PARK - BSP TGW UND INT IN TRACT A THRU J

Please attach an 8½" X 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

1. General description:

The proposed project involves converting portions of an existing office building (known as the 'Conference Center Building') into a day care facility. Interior improvements will consist of upgrades to accommodate classroom and day care support spaces. Exterior improvements include a new ramp and landings that will lead from the building to a new enclosed outdoor play area. The play area will be constructed over an existing paved parking area. All outdoor improvements will occur within overlapping critical area buffers. The proposed project also includes a detailed mitigation plan with installation of native plants and control of invasive species in order to compensate for impacts associated with construction of the proposed outdoor improvements.

- 2. Acreage of site: 10.35 acre
- 3. Number of dwelling units/buildings to be demolished: **Zero.**
- 4. Number of dwelling units/buildings to be constructed: No new dwellings will be constructed.
- 5. Square footage of buildings to be demolished: Not applicable.
- 6. Square footage of buildings to be constructed: No new inhabitable structures will be constructed. The



project will include interior tenant improvements and an outdoor play area.

- 7. Quantity of earth movement (in cubic yards): No filling or grading is proposed for the tenant improvement or outdoor play area.
- 8. Proposed land use: The current land use is Office (O). The proposed facility is an allowed use within the O zone; however, different occupancy and parking standards apply to the day care. Thus, the proposed day care facility is considered a 'tenant improvement with change of use'.
- 9. Design features, including building height, number of stories, and proposed exterior materials: The majority of improvements will occur within the existing building. Exterior improvements include a new outdoor play area. The proposed play area will contain several play structures for children, as well as a fence surrounding the area. Materials will be typical of those used in play areas and play structures, likely metal and high-density plastic. The project will also include an access area that includes a new set of exit doors, landing and ramps that lead from the building to the play area.

1	0.	Other
	υ.	Oute

Estimated date of completion of the proposal or timing of phasing:

The proposed renovations and expansions would likely take two to three months to complete, and would begin as soon required permits have been obtained.

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

None at this time.

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Trip Generation & Parking Study, Primrose Day Care Tenant Improvement, prepared by Traffic Engineering Northwest, November 2016.

Primrose Day Care Play Area Critical Areas Report, prepared by The Watershed Company, January 2016.

Bellefield Office Park Vegetation Management Plan, prepared by The Watershed Company (June 2013).

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

A separate project, called Bellefield Landscape Amenities, which proposes improvements on a separate area of the 10+ acre parcel was submitted in 2015, and subsequently canceled in 2016 (15-120833-LO). A new pre-application was submitted in September, 2016, to begin discussions with the City regarding the project (16-142226-DC). This project would not have an effect on the proposed



## Primrose Day Care Project. No other projects are known to be seeking government approvals on the subject property.

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

City of Bellevue SEPA Review
City of Bellevue Critical Areas Land Use Permit
City of Bellevue Shoreline Substantial Development Permit
City of Bellevue Land Use Exemption
City of Bellevue Tenant Improvement with Change of Use
City of Bellevue Building Permit

Please provide one or more of the following exhibits, if applicable to your proposal. (Please check appropriate box(es) for exhibits submitted with your proposal):

Land Use Reclassification (rezone) Map of existing and proposed zoning
Preliminary Plat or Planned Unit Development Preliminary plat map
Clearing & Grading Permit Plan of existing and proposed grading Development plans
Building Permit (or Design Review) Site plan Clearing & grading plan
Shoreline Management Permit Site plan



### A. ENVIRONMENTAL ELEMENTS

#### 1. EARTH

- a. General description of the site (circle one): Flat Rolling Hilly Steep slopes Mountains Other:
- b. What is the steepest slope on the site (approximate percent slope)?

The steepest slopes in the project area are approximately 5%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

According to the USDA Natural Resource Conservation Service (NRCS) Web Soil Survey maps, the soils across the site are mapped as Seattle Muck (Sk).

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

The Bellefield Office Park was built within the historic extent of Lake Washington and the Mercer Slough. Prior to the lowering of Lake Washington in 1916 as a result of the construction of the Hiram Chittenden Locks, the subject area was underwater and formed part of Lake Washington. As a result, there is evidence of subsidence on site. However, there are no other surface indications of unstable soils.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

No fill or grading is proposed as part of the tenant improvement and outdoor play area improvements.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

The only erosion potential exists as a result of wetland buffer mitigation activities. Erosion could occur if soils exposed by invasive vegetation removal are mobilized by rainfall. The measures described below would help minimize erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The proposed improvements will result in approximately 300 square feet of new impervious surfaces. However, there will be a net reduction of approximately 4,800 square feet of pollution generating impervious surfaces.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

While no formal grading or fill is proposed, minor impacts will occur as a result of wetland buffer mitigation activities. These activities would be in accordance with City of Bellevue Clearing & Grading Code, Clearing & Grading Erosion Control Standard Details (EC-1 through EC-23), Development Standards, Land Use Code, permit conditions, and all other applicable codes, ordinances, and standards.



#### 2. AIR

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Any air quality impacts from construction vehicle emissions and dust generation would be temporary and rapidly dissipated. After project completion, no further impacts to air would occur.

 Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no off-site sources of emissions that will affect the project.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Standard methods of reducing impacts to air would be utilized, and include keeping all heavy equipment in good operating condition and managing ground disturbing activities as described above under 1h.

### 3. WATER

- a. Surface:
- Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.
  - Yes. The proposed project is adjacent to the main channel of the Mercer Slough, a shoreline waterbody. There are also several wetlands on site, three of which are in the immediate vicinity of the project area, Wetlands A, B and C. Wetlands A and B are both Category III depressional wetlands, each with a habitat score of 11. Wetland C is continuous with Mercer Slough to the east. Wetland C is a Category II wetland with a habitat score of 29.
- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.
  - Yes. The proposed work will occur within 200 feet of the main channel of Mercer Slough, and Wetlands A, B and C. A total of 5,965 square feet of buffer impact will occur. See plans for details.
- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

The project does not propose filling or dredging of surface waters or wetlands.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.



Some of the mitigation area will lie within the 100-year floodplain. The proposed play area was designed to be located outside of the 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No intentional discharges of waste materials would occur during project construction.

- b. Ground
- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give a general description, purpose, and approximate quantities if known.

There will be no withdrawal of or discharge to ground water associated with this project.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . .; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

There will be no waste material from septic tanks or other sources discharged into the ground as part of this project.

- c. Water runoff (including stormwater):
- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Approximately 300 square feet of new impervious surfaces are proposed. These improvements consist of a new ramp and landings over an area of existing lawn. However, no change in runoff patterns are expected due to this insignificant increase.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Wetland and wetland buffer enhancement plantings are expected to increase water quality functions in this portion of the site. No other measures are necessary.

#### 4. PLANTS

a.	Check or	r circle typ	es of v	egetation	found on	the site:

$\boxtimes$	deciduous tree: alder, maple, aspen, other: birch
$\boxtimes$	evergreen tree: fir, cedar, pine, other: Shore Pine
$\boxtimes$	shrubs
	pasture
	crop or grain
$\boxtimes$	wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other:
	water plants: water lily, eelgrass, milfoil, other:



b. What kind and amount of vegetation will be removed or altered?

A small area of lawn will be removed to accommodate the proposed ramp and landings. Otherwise, the only vegetation to be removed consists of invasive blackberry and reed canary grass within the enhancement area.

c. List threatened or endangered species known to be on or near the site.

No threatened or endangered plant species have been documented in the City of Bellevue.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The proposed project includes a mitigation plan to compensate for impacts associated with the proposed exterior improvements. A total of 5,965 square feet of enhancement is proposed. A diversity of native trees, shrubs, and groundcovers will be installed to enhance the values and functions of onsite critical areas and critical area buffers.

#### 5. ANIMALS

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: <a href="https://hawk, heron, eagle, songbirds">hawk, heron, eagle, songbirds</a>, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

Adult and juvenile Chinook salmon and steelhead trout, both listed as Threatened under the federal Endangered Species Act (ESA), migrate through Lake Washington and into Mercer Slough. Adults migrate upstream to reach spawning grounds; juveniles migrate downstream from their natal streams to reach the ocean. Lake Washington and Mercer Slough potentially contain bull trout, a salmonid listed as Threatened under the federal ESA. Lake Washington and Mercer Slough also contain coho salmon, a Species of Concern under the federal ESA.

Bald eagles, listed as Species of Concern under the federal ESA, commonly forage and nest next to large open waters and may pass through the office park. No raptor nests were noted during project fieldwork, but three bald eagle nests are mapped (on Washington Department of Fish and Wildlife's PHS on the Web) within a one-mile radius.

c. Is the site part of a migration route? If so, explain.

Adult and juvenile salmon migrate up and downstream, respectively, through Mercer Slough. Migrating waterfowl may use the slough as resting and foraging areas during spring and fall migrations.

d. Proposed measures to preserve or enhance wildlife, if any:

The existing condition of the proposed project area is primarily pavement, with some small landscaping trees and shrubs present nearby. The paved parking area does not provide any



habitat, hydrologic or water quality function. The proposed mitigation area is impaired; it is sparsely vegetated, contains invasive vegetation, and lacks structural and species diversity, which limits food and cover opportunities for most wildlife species. The proposed enhancement plan includes installation of native trees, shrubs and groundcover in order to increase the site's potential to provide important ecological functions. New plantings will provide organic matter and foraging and nesting opportunities for terrestrial wildlife, including several songbird species. Invasive removal and native plant restoration is expected to improve critical area functions and values within the subject area.

#### 6. ENERGY AND NATURAL RESOURCES

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The proposed project will utilize energy sources currently available at the site.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

No such measures are necessary.

#### 7. ENVIRONMENTAL HEALTH

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Typical hazards related to construction equipment fuels are associated with the proposed project.

1) Describe special emergency services that might be required.

The need for emergency services is not anticipated at the site. In the unlikely event that an accident (spill, fire, other exposure) occurs involving toxic chemicals or hazardous wastes, the local Fire Department's Hazardous Materials Team would respond. If necessary, local medical services might also be required. The full range of safety and accident response supplies would be on-site to treat any emergency.

2) Proposed measures to reduce or control environmental health hazards, if any:

Standard precautions would be taken to ensure the safety of the work crew. The construction manager would be contacted by a crew member immediately upon discovery of a spill. The construction manager would then ensure that the spill is cleaned up in the manner dictated by the chemical use instructions and would contact the appropriate authorities.

- b. Noise
- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?



There is no noise in the area that would affect this project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Construction noise would be limited to normal daytime working hours, in compliance with LUC 9.18. Long term, the project will likely create some noise associated with use of the outdoor play area. This noise will likely occur during regular business hours (between 7:00 AM and 6:00 PM, Monday - Friday).

3) Proposed measures to reduce or control noise impacts, if any:

As mentioned above, construction noise would be restricted to the standards established in LUC 9.18. No other noise-control measures are proposed.

#### 8. LAND AND SHORELINE USE

a. What is the current use of the site and adjacent properties?

The site is currently used as an office park. The office park is situated between the preserved natural areas of the Mercer Slough Nature Park and other office park areas.

b. Has the site been used for agriculture? If so, describe.

Yes; the Bellefield Office Park was built within the historic extent of Lake Washington and Mercer Slough. Prior to the lowering of Lake Washington in 1916 as a result of the construction of the Hiram Chittenden Locks, the subject area was underwater and formed part of Lake Washington. Following the lowering of the lake level, the area emerged as a peat bog wetland that was subsequently used for agriculture.

c. Describe any structures on the site.

The subject parcel contains 4 one- and two-story office buildings.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

Office (O).

f. What is the current comprehensive plan designation of the site?

Office (O).

g. If applicable, what is the current shoreline master program designation of the site?

Mercer Slough is regulated as a shoreline. However, the current Bellevue shoreline regulations do not include environment designations for any shorelines.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.



Yes, the on-site wetlands and Mercer Slough have been classified as "environmentally sensitive" areas. Additionally, Mercer Slough is within the mapped 100-year floodplain.

i. Approximately how many people would reside or work in the completed project?

The completed project will employ approximately 10 people.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Not applicable.

I. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The proposed facility will provide child care services for tenants (and others) of the Bellefield Office Park. In addition, the facility is an allowed use within the underlying land use district. Outdoor portions of the facility will be fenced and designed to be aesthetically compatible with existing and projected land uses in the vicinity.

#### 9. HOUSING

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No units will be eliminated as part of the proposed project.

c. Proposed measures to reduce or control housing impacts, if any:

No measures are necessary.

#### 10. AESTHETICS

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest portion of any newly created structure is the proposed ramp and landing system and the fence that would enclose the outdoor play area. These structures are not expected to exceed 6 feet in height and would be made of decorative metal.

b. What views in the immediate vicinity would be altered or obstructed?

Views in the immediate vicinity will be altered slightly from the proposed fenced play area.

c. Proposed measures to reduce or control aesthetic impacts, if any:



No measures are necessary.

#### 11. LIGHT AND GLARE

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The proposed project is not expected to create new light or glare.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

No measures are necessary.

#### 12. RECREATION

a. What designated and informal recreational opportunities are in the immediate vicinity?

Mercer Slough Nature Park is located to the south and east of the subject area. The waters of Mercer Slough that surround the subject area are part of the Mercer Slough Water Trail and thus, are sometimes used for personal watercraft recreation. There are also a number of walking trails within the area.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

No measures are necessary.

### 13. HISTORIC AND CULTURAL PRESERVATION

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

According to the Department of Archeology and Historic Preservation's (DAHP) WISAARD (Washington Information System for Architectural and Archaeological Records Data) website, the Frederick W. Winters House (Washington Heritage Register and National Register) is the closest registered landmark, situated approximately 3,500 feet from the project area.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

No landmarks or evidence are known to be on or next to the site.

c. Proposed measures to reduce or control impacts, if any:



Should historic, archeological, scientific or cultural significant items be encountered during implementation of this project, work would be temporarily stopped while the appropriate agencies are notified.

#### 14. TRANSPORTATION

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Access to the site is via a bridge on 114th Avenue SE (taking access from SE 8th Street) and a second bridge on SE 15th Street (taking access from 112th Avenue SE).

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

The nearest King County Metro transit stop is located at the entrance to the office park (corner of 114th Avenue SE and SE 8th Street).

c. How many parking spaces would the completed project have? How many would the project eliminate?

The proposed project will eliminate a maximum of 17 parking spaces. A total of 35 parking spaces would remain for the day care use.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

This project will not affect public roads in any way.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Per the Traffic Engineering Northwest, *Trip Generation & Parking Study, Primrose Day Care Tenant Improvement*, the proposed project will create 879 new weekday daily trips. This includes an AM peak of 148 trips and PM peak of 151 trips.

g. Proposed measures to reduce or control transportation impacts, if any:

No measures are necessary.

#### 15. PUBLIC SERVICES

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

The proposed project is not expected to result in an increase in the need for public services.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.



### 16. UTILITIES

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

The proposed project will not require any new utilities.

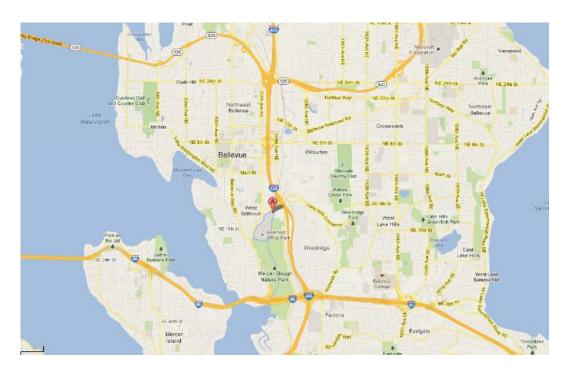
### **Signature**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature \_\_\_\_\_\_\_

Date Submitted: 1/10/2017

### Vicinity Map from Google Maps





LOTS 1, 2, 3 AND 4; TOGETHER WITH TRACTS A, B, C, D, E, F, G, H, I AND J, ALL IN BELLEFIELD OFFICE PARK, ACCORDING TO THE BINDING SITE PLAN RECOEDED IN VOLUME 138 OF PLATS, PAGES 25 THROUGH 29, INCLUSIVE, IN KING COUNTY, WASHINGTON.

### BASIS OF BEARINGS

N 71°28'54" E BETWEEN CITY OF BELLEVUE CONTROL MONUMENTS FOUND AND HELD AS SHOWN HEREON PER BELLEFIELD OFFICE PARK.

### REFERENCES

- 1. RECORD OF SURVEY, RECORDED IN BOOK 22 OF SURVEYS, PAGE 91, RECORDS OF KING COUNTY, WASHINGTON.
- 2. CITY OF BELLEVUE SURVEY CONTROL.
- 3. BELLEFIELD OFFICE PARK, RECORDED IN VOLUME 119 OF PLATS, PAGES 81 — 90, RECORDS OF KING COUNTY, WASHINGTON.

### VERTICAL DATUM

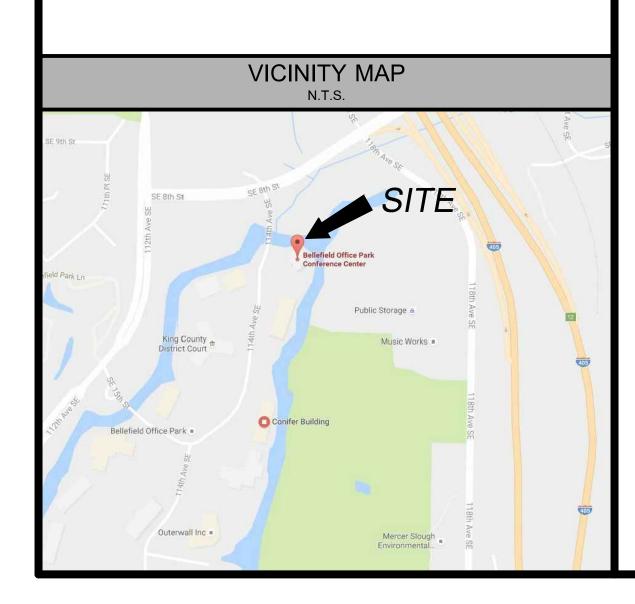
NAVD(88) PER CITY OF BELLEVUE VERTICAL BENCHMARK #130, 3" BRASS SURFACE MONUMENT, EL: 33.99'.

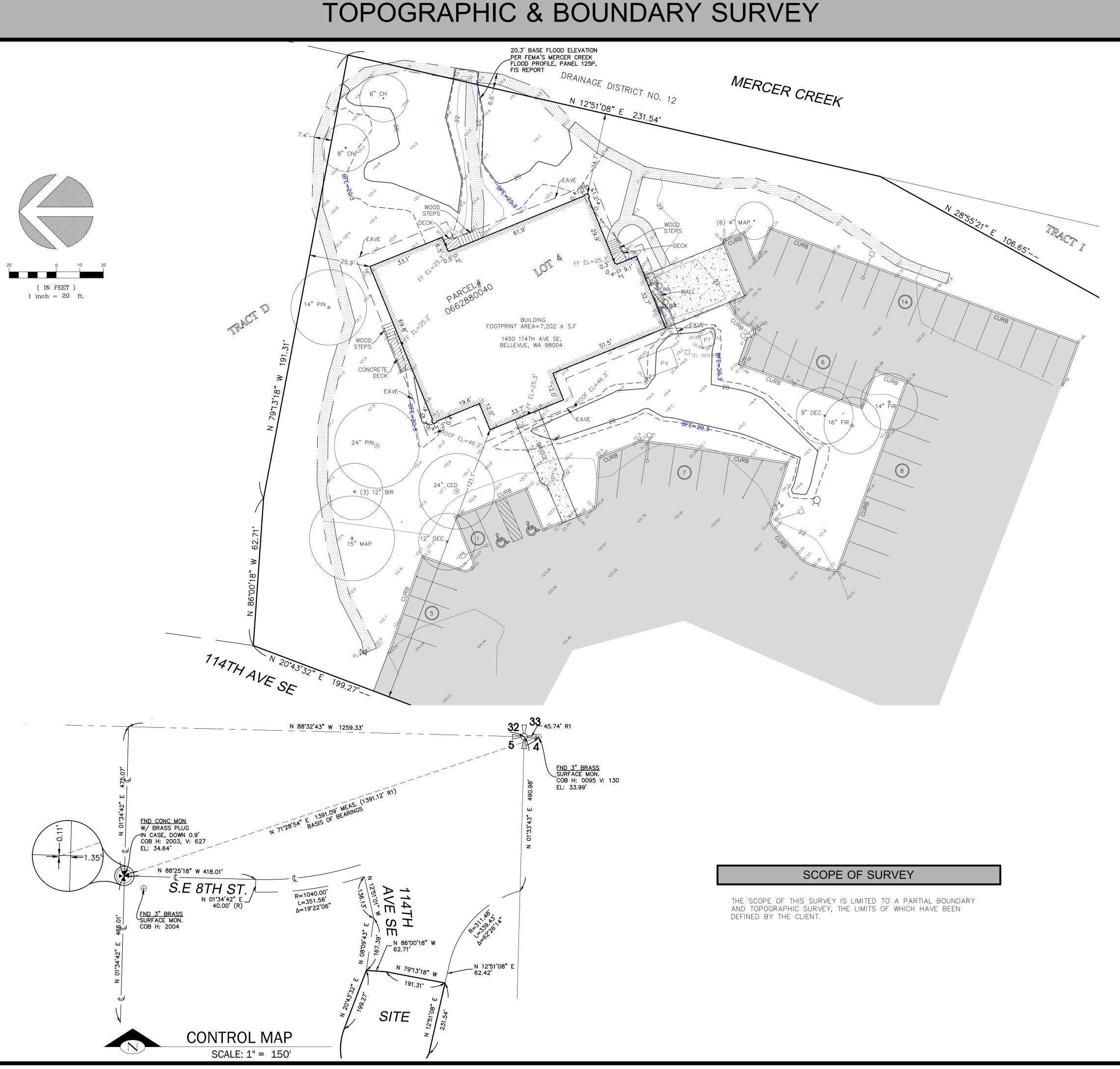
### SURVEYOR'S NOTES

- 1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN SEPTEMBER OF 2016. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT
- 2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
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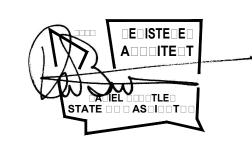
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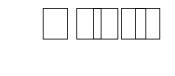
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**CRITICAL AREAS REPORT** 

## Primrose Day Care Play Area

Bellevue, WA

Prepared for: Erik Peterson, Wallace Properties



January 2017



### CRITICAL AREAS REPORT

### Primrose Day Care Play Area - Bellevue, WA

### Prepared for:

Erik Peterson, Associate Vice President Wallace Properties 330 112th Avenue NE Bellevue, WA 98009

### Prepared by:



January 2017

The Watershed Company Reference Number: 160642

The Watershed Company Contact Person: Kenny Booth, AICP

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### CRITICAL AREAS REPORT

BELLEFIELD PRIMROSE DAY CARE PLAY AREA - BELLEVUE, WA

### 1 Introduction

### 1.1 Background and Purpose

The applicant is proposing to construct a fenced outdoor play area to support a proposed day care facility located at 1150 114th Avenue SE in the City of Bellevue, King County, Washington, Section 5 of T24N, R05E (parcel 0662880040) (Figure 1). The facility will be located within a portion of the Conference Center building at the Bellefield Office Park. The office park was built within the historic extent of Lake Washington and the Mercer Slough. The present elevations of most of the Bellefield complex are at or below the Base Flood Elevation (BFE) and the site is heavily encumbered with wetlands, and wetland and shoreline buffers. In order for development of the outdoor play area to occur, unavoidable impacts to critical area buffers and setbacks are proposed.

This report describes the baseline conditions of the project area, documents proposed wetland and shoreline buffer/setback impacts, and proposes mitigating actions that will allow the project to be achieved with a net gain in critical area and shoreline ecological functions. Under Bellevue Land Use Code (LUC) 20.25H.230, a critical areas report is required as part of any critical area buffer or setback modification proposal.



Figure 1. Vicinity Map (Google Maps).

### 1.2 Site History

The Bellefield Office Park was built within the historic extent of Lake Washington and the Mercer Slough. Prior to the lowering of Lake Washington in 1916 in order to allow construction of the Hiram Chittenden Locks, the subject area was underwater and formed part of Lake Washington. Following the lowering of the lake level, the area emerged as a peat bog wetland that was subsequently used for agriculture. In the early 1970's non-structural fill was imported and placed on top of the peat. Filling was augmented by spoils from the dredging of existing and new channels along the slough.

Development on the newly created island began in 1974 with construction of the first office building. Over the subsequent years, additional office buildings were constructed, with much of the north end developed prior to 1980 and the south end developed by 1990.

### 2 Existing Conditions

The proposed outdoor play area will be located south of the Conference Center building in an area that is currently used for parking.



Figure 2. Approximate location of proposed outdoor play area

### 2.1 Overview

The entire project area is located within the Cedar-Sammamish watershed, Water Resource Inventory Area (WRIA) 8. As noted above, the Bellefield Office Park was permitted and built within the historic extent of Mercer Slough. The site is located on an island, bounded to the north, west, and south by the West Channel of Mercer Slough, and to the east by Mercer Slough. Mercer Slough comprises the lower drainage of Kelsey Creek, and the site is located approximately 1.2 miles upstream from the mouth of Mercer Slough at Lake Washington.

Due to the creation of the site from the historic Mercer Slough, wetland conditions persist or have re-emerged in most areas not covered by development. This results in numerous separate wetland units, several of which are seasonally or permanently flooded.

According to Natural Resources Conservation Service (NRCS) soil maps, almost 90 percent of the Bellefield site is comprised of Seattle Muck (Sk). Sk is an organic poorly drained soil characterized by a high water table and frequent inundation. The remaining 10 percent of the area is mapped as Alderwood gravelly sandy loam; it is mapped along 112th Avenue on the west side of the site.

Site soils have been affected by the lowering of Lake Washington in 1916 and the placement of fill material in the 1970s (which is not reflected in the NRCS soils map). Today the site contains a mix of organic and imported mineral soils.

Bellefield Office Park is situated between the preserved natural areas of the Mercer Slough Nature Park and the City of Bellevue's urban core. Onsite, a fragmented mosaic of wetlands and maintained landscaping surrounds the existing buildings, access roads, and parking lots. The area provides habitat for birds, herptiles, and small mammals. Highly mobile species such as birds are the most likely to cross the numerous breaks in the onsite habitat to reach and utilize the vegetated areas.

Habitat patches within developed urban areas are vital to urban bird conservation, although they don't support the species that larger forests on the outskirts of urbanizing areas can. Songbirds in particular are likely to use forested areas within the office park. Birds are better able than other wildlife species to travel among habitat fragments, such as those within the office park. Some herptiles may have their entire life cycle requirements met in the office park wetlands and natural areas, particularly in areas of seasonal inundation. However, amphibians likely avoid migration across developed and highly used areas into and out of the adjacent Mercer Slough Nature Park. The park may provide a source of herptiles to onsite wetlands that are contiguous with the park or separated by only narrow and lightly used breaks.

The diversity of plant species and structure throughout the office park provides for many different food and cover opportunities for wildlife. Berry-producing plants within the office park, such as salmonberry and snowberry, provide a food source for songbirds, and other plants provide seeds, cones, and catkins for wildlife. Non-native blackberry brambles also provide a food source and refuge for birds and small mammals. A structurally diverse community of trees and shrubs provide perching and nesting opportunities, and cattails may attract specialized species such as red-winged blackbird and marsh wren.

Waterfowl frequent areas of seasonal and permanent inundation and may occasionally use the site's wetlands and Mercer Slough. The presence of development and human disturbance is expected to deter more sensitive species and limit use of the area to synanthropic species such as Canada goose and mallard. However, a wide range of waterfowl species make use of the slough itself. Anadromous and resident fish utilize the surrounding Mercer Slough.

The Watershed Company completed a wetland delineation study of the project area in November 2016. Delineated wetland areas are depicted on Sheet W1 in Appendix A. All on-site wetlands and their respective buffers are regulated by the City of Bellevue's critical areas regulations (Chapter 20.25H of the Bellevue Land Use Code [LUC]). A detailed description of the wetlands within the project area can be found in the separate delineation report.



Figure 3. Oblique aerial imagery of the proposed project site (facing west) (Bing 2013)



Figure 4. View of the existing parking lot upon which the outdoor play area will be constructed. The existing Conference Center Building is visible in the background – facing north (photo taken December 14, 2016)



Figure 5. Typical shrubbery adjacent to the project area (Photo taken November 30<sup>th</sup>, 2016)



Figure 6. Wetland A (Photo taken November 30<sup>th</sup>, 2016)



Figure 7. Wetland A, adjacent shrubbery and proposed fenced play area location (parking area) in background (Photo taken November 30<sup>th</sup>, 2016)



Figure 8. Wetland B, facing southeast (Photo taken February 11th, 2013)



Figure 9. Wetland C and the main channel of Mercer Slough, facing east. Note the lack of native vegetation, structural complexity and plant species diversity (Photo taken November 30<sup>th</sup>, 2016)



Figure 10. Proposed enhancement area: Wetland C and the main channel of Mercer Slough, facing north. Note the lack of native vegetation, structural complexity and plant species diversity, especially along the shoreline (Photo taken November 30<sup>th</sup>, 2016)

### 2.1.1 Species of Local Importance

The City of Bellevue designates habitat associated with species of local importance as a critical area (LUC 20.25H.150.B). Species of local importance (LUC 20.25H.150.A) are listed in Table 1.

Considering onsite conditions and landscape position, the project area may provide habitat, primarily perching and foraging habitat, for the following species of local importance: red-tailed hawk, merlin, great blue heron, pileated woodpecker, Vaux's swift, and purple martin. Bald eagles and osprey commonly forage and nest next to large open waters and may pass through the office park. No raptor nests were noted during fieldwork, but three bald eagle nests are mapped within a one-mile radius (WDFW, PHS on the Web). The eastern channel of Mercer Slough is mapped by King County as part of the Coho and Chinook salmon and steelhead trout distribution area; cutthroat trout and sockeye salmon are mapped within the entire slough channel. In general, wetland areas that are continuous with Mercer Slough and fringe wetlands tend to have the more intact habitat features than the maintained office park interior.

Table 1. Species of Local Importance as defined in LUC 20.25H.150.A.

Common name	Scientific name
Bald eagle	Haliaeetus leucocephalus
Peregrine falcon	Falco peregrinus
Common loon	Gavia immer
Pileated woodpecker	Dryocopus pileatus
Vaux's swift	Chaetura vauxi
Merlin	Falco columbarius
Purple martin	Progne subis
Western grebe	Aechmophorus occidentalis
Great blue heron	Ardea herodias
Osprey	Pandion haliaetus
Green heron	Butorides striatus
Red-tailed hawk	Buteo jamaicensis
Western big-eared bat	Plecotus townsendii
Keen's myotis	Myotis keenii
Long-legged myotis	Myotis volans
Long-eared myotis	Myotis evotis
Oregon spotted frog	Rana pretiosa
Western toad	Bufo boreas
Western pond turtle	Clemmys marmorata
Chinook salmon	Oncorhynchus tshawytscha
Bull trout	Salvelinus confluentus
Coho salmon	Oncorhynchus kisutch
River lamprey	Lampetra ayresi

### 3 Local Regulations

### 3.1 Wetlands

In Bellevue, wetlands are regulated under the Critical Areas Ordinance. According to Bellevue land use code (LUC) 20.25H.095, wetland buffer widths are determined based on wetland category, individual functions scores using Ecology's Western Washington Rating System, site condition (developed or undeveloped), and wetland size.

Wetlands A and B are a Category III wetland which both score 11 points for habitat functions. Category III wetlands in the City of Bellevue with habitat scores less than 20 points require a 60-foot buffer. Wetland C is continuous with Mercer Slough to the east. Wetland C is a Category II wetland with a habitat score of 29. Category II wetlands in the City of Bellevue with habitat scores of 29 points or greater require a 225-foot buffer. Bellevue also requires that there be a structure setback of 15 feet beyond the buffer of a Category III wetland and 20 feet beyond the buffer of a Category III wetland.

Buffer and setback widths may be modified through the critical areas report process (LUC 20.25H.230) if it can be shown that an enhancement plan will improve buffer function overall despite the buffer modification. Enhancement may involve removing invasive plant species, planting native vegetation, etc. An approved enhancement plan would require monitoring and maintenance in accordance with LUC 20.25H.210.

### 3.2 Shorelines

According to LUC 20.25E, Mercer Slough is regulated as a shoreline of the state. Bellevue shorelines are regulated under the Shoreline Master Program. Shoreline jurisdiction includes land within 200 feet of the ordinary high water mark (OHWM) of a shoreline waterbody, floodways, contiguous 100-year floodplain extending up to 200 feet inland of the floodway, and associated wetlands.

Buffers for shorelines are required as designated in LUC 20.25H.115. On a developed site, such as the project area, shorelines are required to have a 25-foot buffer. Bellevue also requires a 25-foot structure setback from the edge of the shoreline buffer on developed sites. Shoreline buffers and setbacks may be modified pursuant to the same critical areas provisions of LUC 20.25H described above under Section 3.1.

### 4 Proposed Impacts

The proposed 5,965-squure-foot fenced outdoor play area will be located almost entirely in an area that is currently paved and used for parking. The proposed project involves covering the existing impervious paved areas with turf or other play-friendly surface

and installing several play structures. The entire area will be fenced for safety purposes, resulting in some structural impacts beyond those associated with the existing parking lot. This proposed play area will greatly enhance the offerings of the onsite day care facility. It will also meet minimum state standards relating to the size of outdoor play areas. A small area of impact will also occur over an area of existing grass, just east of the play area. This area will accommodate a new set of exit doors, landing, and ramps that will lead from the building and onto the play area. The ramp will be structured with pin piles and concrete pile caps at the landings and then "bridged" down to the play surface grade.

The proposed project will require modification of shoreline and wetland buffers and setbacks. The standard buffers of Mercer Slough and all of the wetlands in the project areas are degraded by the surrounding development and currently offer marginal buffer functions and values. Much of the buffer areas currently consist of lawn. The riparian area immediately adjacent to Mercer Slough is dominated by invasive reed canarygrass and Himalayan blackberry. The project proposes to enhance portions of the Wetland C and Mercer Slough buffers, along with a portion of Wetland C. Enhancement will include invasive species removal and control, and planting of native trees, shrubs and groundcover species which will increase functions over existing conditions. Buffer enhancement area to impact area is proposed at a 1:1 ratio.

The entire proposed enhancement area will be kept free from all development and disturbance. The proposed removal of invasive species from the critical area and buffer along with the installation of native plants will provide an additional level of protection of the Mercer Slough and fringe wetland functions and values and will offset the minor impacts to the most degraded buffer areas associated with the proposed play area. Overall, a significant net gain in wetland, wetland buffer and shoreline riparian area functions is proposed.

### 4.1 Mitigation Sequencing

Pursuant to LUC 20.25H.215, attempts to avoid, minimize and mitigate for impacts to the on-site critical area buffers and setbacks have been taken.

Avoidance: Several different locations were considered for the proposed play area including areas to the northwest and northeast of the existing Conference Center building. The play area was ultimately proposed in an area outside of the regulated floodplain and within an area that is currently used for parking. This results in the play area being positioned within the most degraded buffer area and therefore avoiding higher functioning areas. However, in order to construct the proposed improvements, some impacts to buffer areas are unavoidable.

**Minimization:** The proposed play area was sited in an area that would result in the minimum possible impacts to critical area buffer function and values. The existing parking area where the play area is proposed currently provides no ecological value or

function to the critical area. Alternate locations were considered, including areas to the north and northwest of the existing office building. However, these areas were ruled out, in part, due to their location within the regulated floodplain. Additionally, a larger play area was considered, but the proposed play area was scaled back to be the minimum necessary to support the existing day care facility based on the minimum sized play area, per State of Washington day care standards. The existing paved parking area will be left in place and covered with a play-friendly surface in order to avoid additional impacts associated with removing the parking surface. The area will also be surrounded with a fence, resulting in some structural impacts beyond those associated with the existing parking lot. Impacts associated with the proposed play area have been minimized to the greatest extent feasible.

**Mitigation:** As mitigation for the proposed critical area buffer impacts associated with the proposed improvements, a wetland and buffer enhancement plan including invasive weed control, native plant installation, maintenance, and monitoring is proposed. Species to be installed include paper birch, Oregon ash, shore pine, Scouler's willow, western red cedar, vine maple, red-osier dogwood, mock orange, Pacific ninebark, salmonberry, snowberry, Nootka rose, and cluster rose. This plan will greatly improve the function and ecological value of the Wetland C critical area and buffers on site by improving species diversity, structural complexity, and vegetative density. The proposed mitigation measures will also increase organic material and forage and cover opportunities for birds and small mammals.

### 5 FUNCTIONAL LIFT ANALYSIS

As mentioned in the previous sections, the proposed play area will be located entirely within overlapping shoreline and wetland buffers and structure setbacks.

To offset the proposed impacts to the critical area buffers, a total of 5,965 square feet of wetland and wetland/shoreline buffer will be enhanced, providing a 1:1 ratio of enhancement area to impact area. Species to be installed include paper birch, Oregon ash, shore pine, Scouler's willow, western red cedar, vine maple, red-osier dogwood, mock orange, Pacific ninebark, salmonberry, snowberry, Nootka rose, and cluster rose. Proposed invasive species removal and installation of native vegetation is intended to improve the overall functions and values of the wetland, wetland buffer, and shoreline riparian areas. An analysis of the specific functions and values provided by the existing site and the post-project site is provided in Table 2.

Table 2. Functional Lift Analysis

Critical Area/ Buffer Functions	Existing Conditions	Proposed Conditions	Functional Improvement?
Water Quality	Water quality function is limited. The wetland buffers in the vicinity of the project area are impacted by roads, buildings, and parking areas, and are dominated by lawn, invasive species, or landscaping shrubbery. The lack of dense vegetation limits the filtration capacity of the existing buffers.	Install fenced outdoor play area and landings/ramps. Native shrubs, trees and groundcover will be installed within wetland and buffer areas. Invasive species will be controlled and removed.	Yes; water quality will be improved. New native plantings will help to filter stormwater prior to it reaching the wetland or slough. Native plant communities are efficient at filtering stormwater and will constitute a significant improvement over the existing degraded condition.
Hydrology	Hydrologic function is limited. The existing critical area buffer is comprised primarily of invasive plants which provides less than ideal vertical structure that can slow runoff discharging into the wetland and slough from nearby impervious surfaces.	Enhance the wetland and wetland and shoreline buffer with native trees, shrub and groundcover to improve runoff filtration functions.	Yes; new native plantings will provide increased density and resistance to stormwater flows, reducing peak stormwater velocities entering the wetland or slough and improving infiltration.
Habitat	Habitat function is very limited. The existing buffers are comprised of mowed lawn, invasive plants and patchy ornamental vegetation and provide very limited structural complexity and species diversity.	The proposed enhancement plan involves removal of invasive species and installation of a diversity of native vegetation into a degraded wetland and buffer area.	Yes; the proposed plantings within the wetland and buffers will provide a net increase in species and structural diversity. Further, new plantings will provide organic matter and foraging and nesting opportunities for terrestrial wildlife, including several songbird species. New overhanging vegetation will support in-water habitat, as well.
Net Condition	Degraded wetland, wetland buffer and setback, and shoreline buffer and setback. Buffer areas provide limited function and values and are sparsely vegetated.	Invasive species are removed from the site; native trees, shrubs, and groundcover are planted in degraded wetland and buffer areas. The existing parking area is converted into a fenced outdoor play area.	Yes; Critical area and buffer functions and values are improved significantly. Habitat will be enhanced through removal of invasive species and a substantial increase in native vegetation density, diversity and structure, including overhanging vegetation. The proposed plantings will also improve filtration of stormwater, as well as slow stormwater velocities and improve infiltration. Proposed plantings will also result in an increase in organic material to the food chain.

The proposed enhancement plan will result in a significant increase in critical area and critical area buffer values and functions. The existing degraded Wetland C and Mercer Slough buffer area consists primarily of invasive weeds. Following enhancement activities, the area will be more suitable overall for urban songbird and small mammal species than it is presently; the understory will contain more woody vegetation and a greater structural complexity, which is more attractive to songbirds and small mammals than is the existing invasive condition. A greater mix of flowering, fruiting and seeding plants will provide forage over a longer yearly timespan than the relatively uniform existing vegetation. Wildlife species of the Pacific Northwest are also better adapted to forage provided by native plants than non-native species. Additionally, water quality and hydrologic functions will be improved through installation of a dense and diverse array of native vegetation. Plantings will slow stormwater velocities, improve infiltration, and filter contaminants.

# 6 CRITICAL AREAS REPORT CRITERIA

As previously mentioned, wetland and shoreline buffers may be modified pursuant to LUC 20.25H.230. The Director may approve a modification of the buffer if it can be shown that, through enhancement, the modification will result in no loss of buffer function. Furthermore, the critical areas report must meet specific decision criteria in order for the Director to approve a proposal to reduce the regulated critical area buffer. Compliance with the critical areas report criteria listed in LUC 20.25H.255(B) is addressed below.

1. The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in overall critical area or critical area buffer functions.

A wetland and buffer enhancement plan has been prepared (see Appendix A) that details the areas proposed for enhancement to compensate for the buffer impacts associated with the proposed project. Mitigation will involve the planting of 5,965 square feet of native vegetation (trees, shrubs, and groundcover) within a degraded portion of wetland and buffer areas. The planting layout incorporates a diversity of native plant species configured in a naturalistic fashion.

Proposed wetland and buffer plantings will increase species and structural diversity, thereby increasing the number of available habitat niches. The proposed native plantings will improve stormwater treatment within the buffers. The enhancement plan will provide for substantially improved critical area and buffer functions and values relative to the existing condition.

A monitoring and maintenance plan for the proposed mitigation area is also included in this report.

2. The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in the most important critical area or critical area buffer functions to the ecosystem in which they exist.

A wetland and buffer enhancement plan has been prepared (see Appendix A) that details the areas proposed for enhancement as a result of the requested buffer modifications. This plan mitigates for the proposed modifications to the standard wetland and shoreline buffers. Mitigation will involve the planting of 5,965 square feet of native vegetation (trees, shrubs, and groundcover) within a degraded portion of wetland and buffer area. The planting layout incorporates a diversity of native plant species configured in a naturalistic fashion.

The most important critical area function provided by the Wetland C/Mercer Slough buffer is stormwater treatment. The proposed enhancement will help improve the quality of water flowing into the wetland and slough, with the addition of emergent and scrub-shrub vegetation in the buffer, which is currently dominated by grass and invasive species. The habitat value that the wetlands and slough currently offer will be increased by the addition of native plants, as well. Therefore, the enhancement plan will provide for substantially improved critical area functions and values. A net gain in critical area buffer functions is proposed.

3. The proposal includes a net gain in stormwater quality function by the critical area buffer or by elements of the development proposal outside of the reduced regulated critical area buffer.

As outlined in the mitigation plan (see Appendix A), mitigation for the proposed buffer modifications will take place onsite in the form of wetland and buffer enhancements. The enhancement will involve the removal of invasive and non-native species and the planting of native trees, shrubs and groundcover species. The targeted buffer area consists predominantly of invasive species and lawn. The lack of dense native vegetation, known to help filter pollutants from storm water and sub-surface groundwater, prevents the buffer area from acting as a biofilter for runoff towards the wetland and slough.

Enhancement will include 5,965 square feet of native plantings. The native plantings will help to treat on-site runoff and filter pollutants before they reach the wetland or slough. The native understory plantings will significantly improve the stormwater filtration function of the critical area buffers.

4. Adequate resources to ensure completion of any required restoration, mitigation and monitoring efforts.

A mitigation plan has been prepared (see Appendix A) that details the areas proposed for enhancement as a result of the requested critical area buffer modifications. This plan ensures that an overall net gain in critical area and buffer functions will result from the proposed project. Additionally, a comprehensive five-year maintenance and monitoring plan, including detailed information on specific plant types and planting plans is included in this report. This plan will ensure that proposed enhancement plantings will be maintained, monitored and successfully established within the first five years following implementation. Furthermore, to ensure that the proposed plantings are installed and that the five-year maintenance and monitoring plan is implemented a contingency plan is provided and, if required, the applicant will post an Installation Assurance Device and a Maintenance Assurance Device prior to permit issuance.

5. The modifications and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site.

The proposed modifications and compensatory mitigation will improve the function and value of onsite critical area buffers and will not negatively affect offsite critical areas and critical area buffers. Wetland A and Wetland B are small depressional features, isolated by structures, parking areas and trails. The overall function of the Wetland C/Mercer Slough shoreline area in the vicinity of the proposed project area will be enhanced through the removal of invasive species along the bank and increasing the structural and species diversity of the riparian area. These enhancements will increase the overall hydrologic and habitat function of the area, thereby having the potential to improve water quality and habitat functions on adjacent properties.

6. The resulting development is compatible with other uses and development in the same land use district.

The proposed outdoor play area and enhancement will be compatible with adjacent properties and surrounding development within the same land use district. The outdoor play area is within the Bellefield planned unit development and is designed to support the proposed day care facility.

To allow modifications through an approved critical areas report, the Director must also find compliance with the submittal requirements of LUC 20.25H.250. Compliance with the relevant sections listed in LUC 20.25H.250(B) is addressed below.

4. An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development.

The proposed project involves minor impacts associated with converting the existing parking area into a fenced in outdoor play area. A small area of landings/ramps is also proposed. The proposed project would not create any additional permanent buildings or impervious surfaces. No wetland fill or impacts below the OHWM of shorelines on-site are planned as part of the proposed development. Functions and values of on-site critical areas will be improved through buffer enhancement in the adjacent areas. Mitigation will involve the planting of 5,965 square feet of native vegetation (trees, shrubs, and groundcover) within the adjacent Wetland C/Mercer Slough buffer area.

The proposed plantings will result in significantly greater ecological function of Wetland C and Mercer Slough than would occur if the project were not implemented.

- 5. An analysis of the level of protection of critical area functions and values provided by the regulations or standards of this Code, compared with the level of protection provided by the proposal. The analysis shall include:
  - a. A discussion of the functions and values currently provided by the critical area and critical area buffer on the site and their relative importance to the ecosystem in which they exist;

The functions and values provided by the Wetland C and Mercer Slough critical areas and critical area buffers in the vicinity of the project area currently are limited. The critical area and overlapping buffer consists primarily of invasive species and lawn. Mercer Slough provides habitat for a variety of wildlife (see discussion in Section 2). The wetland and buffers onsite also serve to filter stormwater and hold and diffuse flow during storm events, although the current function is limited by a lack of native vegetation. Additional discussion of existing and proposed function associated with the proposed project can be found in Section 5. Overall, the proposed plan would result in a significant net increase in critical area functions on site.

b. A discussion of the functions and values likely to be provided by the critical area and critical area buffer on the site through application of the regulations and standards of this Code over the anticipated life of the proposed development;

The existing Wetland C and Mercer Slough buffers are currently degraded and provide decreased water quality, hydrologic and habitat function. Absent the proposed project, the buffers are likely to remain in

their degraded state. The buffers would remain sparsely vegetated with limited ecological value and would provide decreased functions. Further, since portions of the shoreline are currently dominated by invasive species, without the proposed enhancement plan the buffer is likely to become increasingly overgrown with invasive weeds.

Instead, the proposed project, including buffer modification and enhancement through the critical areas report process, will result in substantially improved critical area functions and values as compared with the strict application of the critical areas standards and regulations.

c. A discussion of the functions and values likely to be provided by the critical area and critical area buffer on the site through the modifications and performance standards included in the proposal over the anticipated life of the proposed development;

By requesting buffer modifications pursuant to LUC 20.25H.230, the applicant is provided the opportunity to restore and enhance portions of the onsite Wetland C and Mercer Slough buffer. A mitigation plan has been prepared (see Appendix A) that details the areas proposed for enhancement as a result of the requested buffer modifications. This plan mitigates for the proposed impacts to standard critical area buffers and setbacks. Mitigation will involve the removal of invasive species, primarily Himalayan blackberry and reed canarygrass from the bank of Mercer Slough, and the planting of 5,965 square feet of native vegetation. The planting layout incorporates a diversity of native plant species configured in a naturalistic fashion. Proposed plantings include trees, shrubs, and groundcover species. A monitoring and maintenance plan for the proposed mitigation area is also included in this report. Overall, a net gain in critical area buffer functions is proposed.

Overall, the existing Wetland C and Mercer Slough buffers are degraded and consist predominantly of invasive species with sparse amounts of woody vegetation. Therefore, mitigation provided for modification of the on-site critical area buffers will provide a higher level of protection than that provided through the application of the regulations of LUC 20.25H.095.

Modification of a critical area buffer requires the applicant to apply for and receive a Critical Areas Land Use Permit. Before issuing a Critical Areas Land Use Permit, the Director must find that the project meets specific decision criteria. Compliance with the applicable Critical Areas Land Use Permit decision criteria listed in LUC 20.30P.140 is addressed below.

A. The proposal obtains all other permits required by the Land Use Code.

The project applicant has applied for a Critical Areas Land Use Permit (LO) to allow for placement of the outdoor play area within the standard buffer of several on-site critical areas. Due to the project's location within shoreline jurisdiction, a Shoreline Substantial Development Permit (WG) will also be required. Modifications to the parking area will also require a Land Use Exemption (LJ), while interior building improvements will require a Tenant Improvement with Change of Use (BY). No other City of Bellevue permits will be required of the project at this time.

B. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques, which result in the least impact on the critical area and critical area buffer.

The proposed project involves minor structural impacts to the standard buffer of multiple overlapping critical areas. The impact associated with the proposed fenced outdoor play area is expected to be comparable to that of the existing parking area. A portion of degraded wetland and wetland/shoreline buffer will be enhanced through the removal of existing invasive and non-native species and the addition of native plantings.

The applicant has used the best available design and development techniques to design the proposed outdoor play area. The design and layout took into consideration the location and condition of existing on-site vegetation and critical areas and buffers, and sought to minimize impacts to the maximum extent feasible. This was accomplished by locating the play area primarily within an area of existing parking. Thus, no significant new disturbance of vegetated areas will occur and there will be an overall reduction in pollution generating surfaces.

The planned development techniques, coupled with the proposed critical area buffer enhancements, will result in the least practicable impact of the on-site critical area buffers. See Section 4.1, Mitigation Sequencing for additional details.

C. The proposal incorporates the performance standards of Part 20.25H LUC to the maximum extent applicable.

20.25H.85 and 100 Performance Standards

Development on sites with a type S stream or associated critical area buffer (wetland or wetland critical area buffer) shall incorporate the following performance standards in design of the development, as applicable:

(A) Lights shall be directed away from the stream/wetland.

A minimal amount of entry lighting is proposed. In addition, illuminated exit signs are proposed at gated exits of the play area. All lighting will be

designed so as not to be directed at on-site wetlands or the Mercer Slough.

(B) Activity that generates noise such as parking lots, generators, and residential uses, shall be located away from the stream/wetland, or any noise shall be minimized through use of design and insulation techniques.

The proposed project will generate some noise; however, noise will not be significantly greater than the site already experiences due to use of existing trails, office buildings and parking areas. The proposed play area is located as far from wetlands as feasible, given the site constraints.

(C) Toxic runoff from new impervious area shall be routed away from the stream/wetlands.

No new pollution generating surfaces will be created. In fact, the project will result in an approximate 4,800 square foot reduction of pollution generating surfaces. Installation of native vegetation will also help to slow and filter stormwater runoff.

(D) Treated water may be allowed to enter the stream/wetland critical area buffer.

No new pollution generating surfaces will be created. The enhanced wetland buffer and riparian area plantings will increase stormwater filtration functions on site.

(E) The outer edge of the stream/wetland critical area buffer shall be planted with dense vegetation to limit pet or human use.

An enhancement plan has been prepared that details the critical area buffers where enhancement is proposed (Appendix A). The plan includes planting within portions of Wetland C and Mercer Slough buffer area. Species to be installed include paper birch, Oregon ash, shore pine, Scouler's willow, western red cedar, vine maple, red-osier dogwood, mock orange, Pacific ninebark, salmonberry, snowberry, Nootka rose, and cluster rose.

(F) Use of pesticides, insecticides and fertilizers within 150 feet of the edge of the stream critical area buffer shall be in accordance with the City of Bellevue's "Environmental Best Management Practices," now or as hereafter amended.

All pesticide and fertilizer use will be accordance with City standards.

D. The proposal will be served by adequate public facilities including streets, fire protection, and utilities.

The proposed project will be served by adequate public facilities. No new streets or utility connections will be needed to serve the proposed project. Additionally, fire and police protection are currently available at the site.

E. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC 20.25H.210; except that a proposal to modify or remove vegetation pursuant to an approved Vegetation Management Plan under LUC 20.25H.055.C.3.i shall not require a mitigation or restoration plan.

A mitigation and restoration plan has been prepared in accordance with the requirements of LUC 20.25H.210.

*F.* The proposal complies with other applicable requirements of this code.

The proposed project complies with all other applicable City of Bellevue Land Use Codes, including 20.25H.

The project actions occurring within shoreline jurisdiction require the applicant to apply for and receive a Shoreline Substantial Development Permit (SSDP). Before issuing a SSDP, the Director must find that the project meets specific decision criteria. Compliance with the applicable SSDP decision criteria listed in LUC 20.30R.155.B is addressed below.

The Director of the Development Services Department may approve or approve with modifications if:

1. The applicant has carried the burden of proof and produced evidence sufficient to support the conclusion that the application merits approval or approval with modifications; and

This critical areas report and the included mitigation plan provide evidence sufficient to support the conclusion that the proposed project complies with all applicable regulations and merits approval.

2. The applicant has demonstrated that the proposal complies with the applicable decision criteria of the Bellevue City Code; and

This critical areas report and the included mitigation plan demonstrate how the proposed project complies with all applicable City of Bellevue Land Use Codes, including 20.25H and 20.25E.

3. The applicant has demonstrated that the proposal is consistent with the policies and procedures of the Shoreline Management Act and the provisions of Chapter 173-14 WAC and the Master Program.

The project will allow for the proposed day care use to comply with State mandated outdoor play area requirements. This report demonstrates that the project will comply with all applicable provisions of the Master Program and will result in a net increase in wetland and shoreline function overall through the enhancement of degraded buffer areas.

# 7 MITIGATION PLAN

### 7.1 Project Summary

Primrose Daycare is leasing space in the Bellefield Office Park, located at 1150 114<sup>th</sup> Avenue SE in the City of Bellevue, Washington. An outdoor enclosed play area is needed to augment the existing building space for daycare operations. Primrose Daycare proposes to construct a 5,965 SF playground over existing parking lot and lawn area. The project area is completely encumbered by wetland buffers. This plan seeks to enhance degraded wetland and buffer area adjacent to the Mercer Slough at a one-to-one mitigation-to-impact ratio. The combined wetland/shoreline buffer has a high potential for enhancement since the area contains invasive species and generally lacks vegetative structure. The proposed wetland and buffer enhancement plan includes removal of lawn and invasive plants and installation of a native plant community.

### 7.2 Goals

- 1) Establish dense and diverse native vegetation that is appropriate to the ecoregion and site within the proposed enhancement area.
- The enhancement area will remain substantially vegetated with a preponderance of native plants and will reduce reed canarygrass cover over time.
- 3) Increase habitat cover and refuge for amphibians, small mammals and invertebrates and foraging and perching opportunities for birds.

### 7.3 Performance Standards

The standards listed below shall be used to judge the success of the installation over time. If performance standards are met at the end of Year 5, the site will then be deemed successful and any performance security bond will be eligible for release by the City of Bellevue.

1) Survival:

- a. Achieve 100% survival of installed container plants and at least 50% survival of installed live stakes by the end of Year 1. This standard can be met through plant establishment or through replanting as necessary to achieve the required numbers.
- b. Maintain at least 50% survival of installed live stakes in Years 2 through 5.

#### 2) Native cover:

- a. Achieve 40% cover of native shrubs and sapling trees by Year 3. Native volunteer species may count towards this cover standard.
- b. Achieve 60% cover of native shrubs and sapling trees by Year 5. Native volunteer species may count towards this cover standard.
- 3) Species diversity: Establish at least three native tree species, five native shrub species, and three native groundcover plants by Year 5. Native volunteer species may count towards this standard.
- 4) Invasive cover: With the exception of reed canarygrass, aerial cover for all non-native, invasive and noxious weeds will not exceed 10% at any year during the monitoring period. Reed canarygrass shall be kept clear of the drip-line or 18-inch radius of installed plants, whichever is greater. Invasive plants in the mitigation area include, but are not limited to Himalayan blackberry (*Rubus armeniacus*), cut leaf blackberry (*Rubus laciniatus*), and reed canarygrass (*Phalaris arundinacea*).

### 7.3.1 Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time and to measure the degree to which it is meeting the performance standards outlined elsewhere in this document.

An as-built plan will be prepared by the **restoration professional** (Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects) prior to the beginning of the monitoring period. The as-built plan shall be a mark-up of the planting plan included in this plan set. The as-built plan will document any departures in plant placement or other components from the proposed plan.

During the as-built inspection, the monitoring **restoration professional** shall install at least three 50-foot long monitoring transects. Representative photo points will also be established. Approximate transect and photo point locations shall be marked on the asbuilt plan.

All other planted areas not directly covered by established transects will be visually assessed and noted as to how they are meeting the performance standards.

Monitoring shall take place twice annually for five years. During each year, there shall be a spring and a late summer or fall visit. Year 1 monitoring shall commence in the first spring subsequent to installation.

The spring monitoring visit will record maintenance needs such as plant replacement and weeding needs. Following the spring visit the restoration professional will notify the owner and/or maintenance crews of necessary early growing season maintenance. The second annual monitoring visit will contain the bulk of the site assessment and will take place in the late summer or early fall. The late-season formal monitoring visit shall record and report the following in an annual report submitted to the City of Bellevue:

- 1) General summary of the spring visit and documentation of completed maintenance tasks as applicable.
- 2) Year 1 counts of live and dead plants by species.
- 3) Counts of dead plants where mortality is significant in any monitoring year.
- 4) Estimate of native woody cover using the line intercept method along the established transect in planted areas.
- 5) Estimate of native woody cover using the cover class method site-wide.
- 6) Estimate of non-native, invasive weed cover using the cover class method site-wide.
- 7) Tabulation of established native species, including both planted and volunteer species.
- 8) Photographic documentation from established photo points.
- 9) Any intrusions into or clearing of the planting areas, vandalism or other actions that impair the intended functions of the mitigation area.
- 10) Recommendations for maintenance or repair of any portion of the mitigation area.

#### **Construction Notes and Specifications**

Note: specifications for items in **bold** can be found below under "Material Specifications and Definitions."

Note: The Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects, shall monitor:

- 1) All site preparation
  - a. Soil preparation.
  - b. Mulch placement.
- 2) Plant material inspection

- a. Plant material delivery inspection.
- b. 50% plant installation inspection.
- c. 100% plant installation inspection.

### **General Work Sequence**

- 1. All plant installation is to take place during the dormant season (October 15th March 1st), for best survival.
- 2. Ensure that the boundary of Wetland C is marked in the field prior to the beginning of construction activities.
- 3. Till in sod, and remove other undesirable plants to ground. Ensure planting areas are free of invasive weeds prior to soil preparation (see details on Sheet W3). Follow approved protocols and BMPs of the King County Noxious Weed Control Program (<a href="http://www.kingcounty.gov/weeds">http://www.kingcounty.gov/weeds</a>) for removal of listed invasive species, including Himalayan blackberry (*Rubus armeniacus*) and reed canarygrass (*Phalaris arundinacea*).
  - a) <u>Himalayan Blackberry Removal Protocol:</u>
    - i. For first year plants, hand-pull the stem closest to the ground and uproot the root ball.
    - Removal mature stems by mowing or mechanical removal.
       Mechanized work should be carried out so as to minimize erosion and prevent sediment-laden runoff from entering the slough.
    - iii. Dig up root crowns and major side roots. Remove root fragments and stems.
    - iv. Dispose of all removed vegetative material offsite.

#### b) Reed Canarygrass Control Protocol:

- i. Cut reed canarygrass down to grade.
- ii. Remove reed canarygrass, including root mat, in circular plots where live stake clusters will be installed. Take care not to alter wetland soil condition or gradient.
- iii. Dispose of all removed reed canarygrass and root material offsite.
- 4. Amend soil as needed, outside of wetland areas and at the direction of the Restoration Professional, by applying a 2-inch layer of compost and rototilling to a depth of 12 inches until thoroughly combined. Within the drip line of trees to remain, hand till to combine as feasible, taking care not to damage tree roots.

5. Install a 4-inch deep layer of **wood strand mulch** over all planting areas outside of the wetland. Hold back mulch from stems of new plants and stems of existing plants to remain.

### **Material Specifications and Definitions**

- 1) **Fertilizer**: <u>Slow release, granular</u> PHOSPHOROUS-FREE fertilizer. Follow manufacturer's instructions for application. Keep fertilizer in a weather-tight container while on site. Note that fertilizer is to be applied only in Years two, three, four and five and <u>not</u> in the first year.
- 2) **Irrigation system:** Automated system capable of delivering at least two inches of water per week from June 1 through September 30 for the first two years following installation.
- 3) **Restoration Professional**: Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects.
- 4) Wood strand mulch:
  - a) Wood strand mulch shall meet WSDOT Standard Specifications for Road, Bridge, and Municipal Construction for Wood Strand Mulch as defined 9-14.4(4). "Wood strand mulch shall be a blend of angular, loose, long, thin wood pieces that are frayed, with a high length-towidth ratio, and it shall be derived from native conifer or deciduous trees. A minimum of 95 percent of the wood strand shall have lengths between 2 and 10 inches. At least 50 percent of the length of each strand shall have a width and thickness between 1/16 and 1/2 inch. No single strand shall have a width or thickness greater than 1/2 inch. The mulch shall not contain salt, preservative, glue, resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood chips or shavings will not be acceptable. The contractor shall provide Material Safety Data Sheet (MSDS) that demonstrates that the product is not harmful to plant life and a test report performed in accordance with WSDOT Test Method 125 demonstrating compliance to the specification prior to acceptance;
- 5) Compost: Compost shall meet WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, 9-14.4(8) for Fine Compost.

### Contingencies

If there is a significant problem with the restoration areas meeting performance standards, a contingency plan will be developed and implemented. Contingency plans can include, but are not limited to: soil amendment; additional plant installation; and plant substitutions of type, size, quantity, and location.

#### Maintenance

The site will be maintained in accordance with the following instructions for five years following completion of the construction.

- 1) Follow the recommendations noted in the previous monitoring site visit.
- 2) Replace each plant found dead in the first summer monitoring visit during the upcoming fall dormant season (October 15 to March 1).
- 3) General weeding for all planted areas:
  - a. At least twice yearly, remove all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur at least twice during the spring and summer. Frequent weeding will result in lower mortality, lower plant replacement costs and will increase the likelihood that the plan meets performance standards by Year 5.
  - b. More frequent weeding may be necessary depending on weed conditions that develop after plan installation.
  - c. Do not weed the area near the plant bases with string trimmer (weed whacker/weed eater). Native plants are easily damaged or killed, and weeds easily recover after trimming.
- 4) Apply slow release granular fertilizer to each installed plant annually in the spring (by June 1) of Years two through five.
- 5) Replace mulch as necessary to maintain a 4-inch-thick layer, retain soil moisture and limit weeds.
- 6) The property owner shall ensure that water is provided for the entire planted area with a minimum of 1 inch of water provided per week from June 1 through September 30 for at least the first two years following installation.

## 8 SUMMARY

The project site is heavily encumbered with wetlands, the Mercer Slough shoreline, and overlapping buffers. Modification to standard wetland and shoreline buffer/setbacks is proposed in order to allow for the construction of a fenced outdoor play area to support the proposed day care facility. A mitigation plan has been prepared that will compensate for minor impacts associated with the proposed project. The mitigation plan details the areas proposed for enhancement as a result of the requested critical area buffer modifications. The plan fully mitigates for the proposed modification to the standard critical area buffers and setbacks. Mitigation will involve the removal of non-

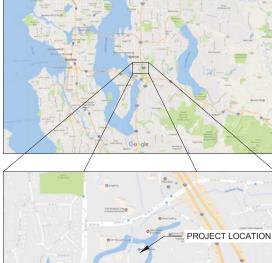
native weed species and extensive planting of native vegetation within portions of Wetland C and the combined wetland/Mercer Slough buffer area. The planting layout incorporates a great diversity of native plant species configured in a naturalistic fashion. Proposed plantings include trees, shrubs and groundcover. The proposed enhancement plan will provide significantly better protection of those critical area functions and values than would be provided by application of the standard buffers. Therefore, an overall net gain in critical area buffer functions is proposed.

## APPENDIX A

# **Mitigation Plan**

# PRIMROSE DAYCARE





### **VICINITY MAPS**

— APPROXIMATE OHWM

GPS DERIVED WETLAND BOUNDARY

APPROXIMATE WETLAND BUFFER

---- APPROXIMATE MERCER SLOUGH BUFFER

- SHEET INDEX

  1 EXISTING CONDITIONS
- IMPACTS ASSESSMENT AND MITIGATION PLAN
- SITE PREPARATION PLAN
- PLANTING PLAN
- PLANTING PLAN
  PLANTING SPECIFICATIONS AND DETAILS
  MITIGATION PLAN NOTES

- NOTES

  1. CRITICAL AREAS DELINEATED AND MARKED WITH GPS POINTS BY THE WATERSHED COMPANY ON NOVEMBER 11, 2016.

  2. SITE PLAN FILE RECEIVED FROM JPC ARCHITECTS ON
- DECEMBER 20TH, 2016.
- GPS DATA DISPLAYED ON THIS MAP WAS COLLECTED IN THE FIELD USING A TRIMBLE GEOXH HAND HELD UNIT. THE DATA WAS DIFFERENTIALLY CORRECTED USING TRIMBLE PATHFINDER OFFICE SOFTWARE TO FURTHER INCREASE POSITION ACCURACY. GPS DATA IS BELIEVED RELIABLE FOR GENERAL PLANNING AND MOST REGULATORY PURPOSES. HOWEVER, ACCURACY IS VARIABLE AND SHOULD NOT BE CONSIDERED EQUIVALENT TO A PROFESSIONAL LAND SURVEY. NO WARRANTY IS EXPRESSED OR IMPLIED.

NOT FOR CONTRACTOR BIDDING

750 Sixth Street South Kirkland WA 98033 p 425.822.5242 www.watershedco.com Science & Design

DAYCARE

**PRIMROSE** 

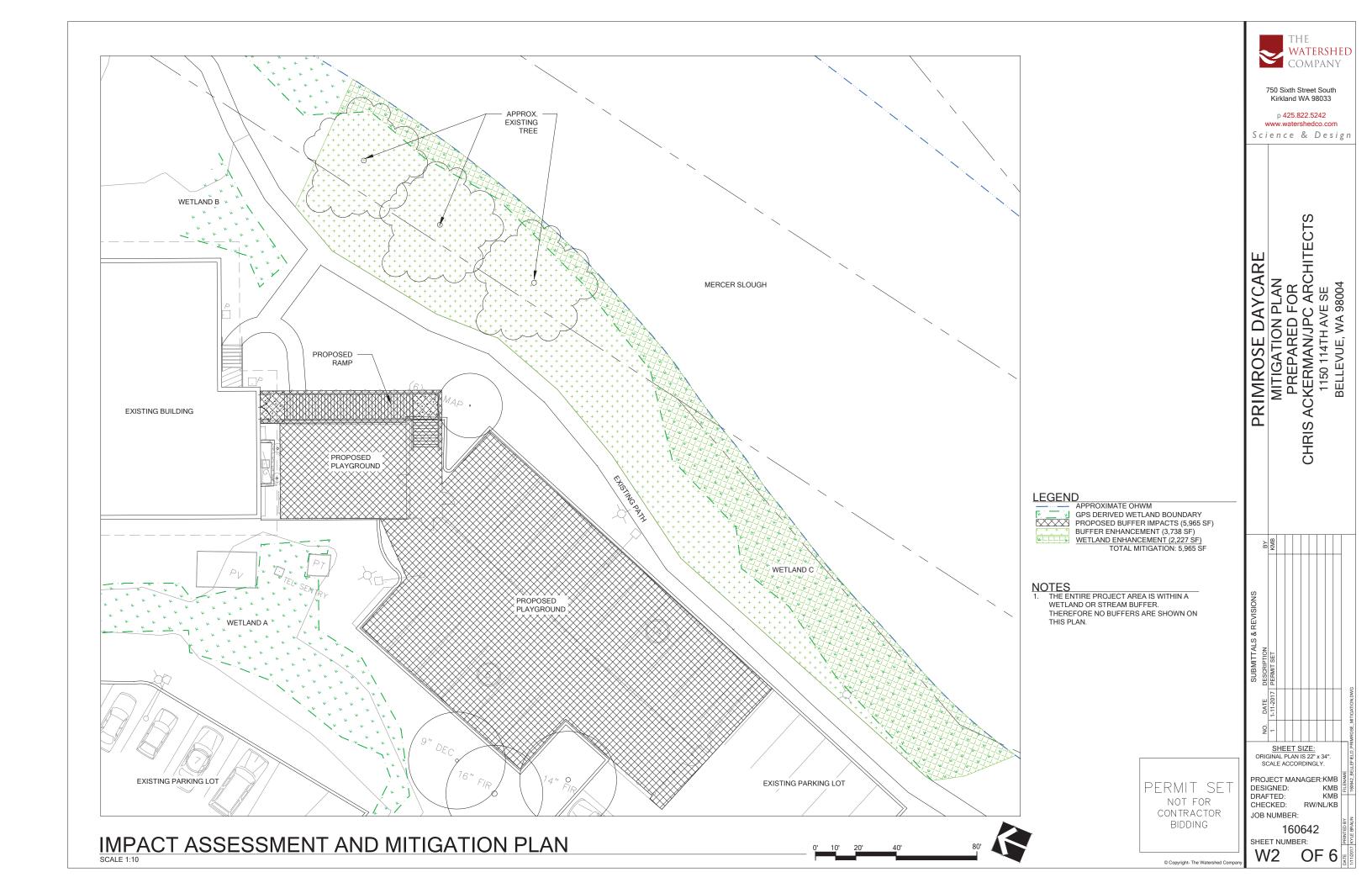
ORIGINAL PLAN IS 22" x 34" SCALE ACCORDINGLY. DESIGNED:

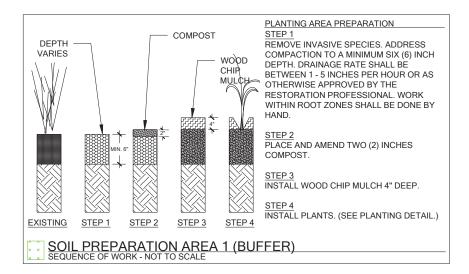
DRAFTED: CHECKED: JOB NUMBER:

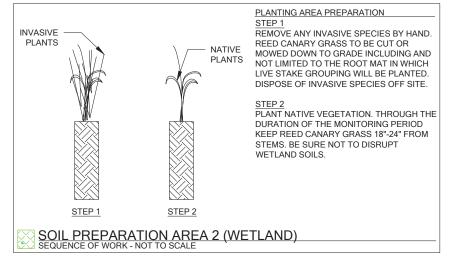
160642

SHEET NUMBER:

**EXISTING CONDITIONS** 





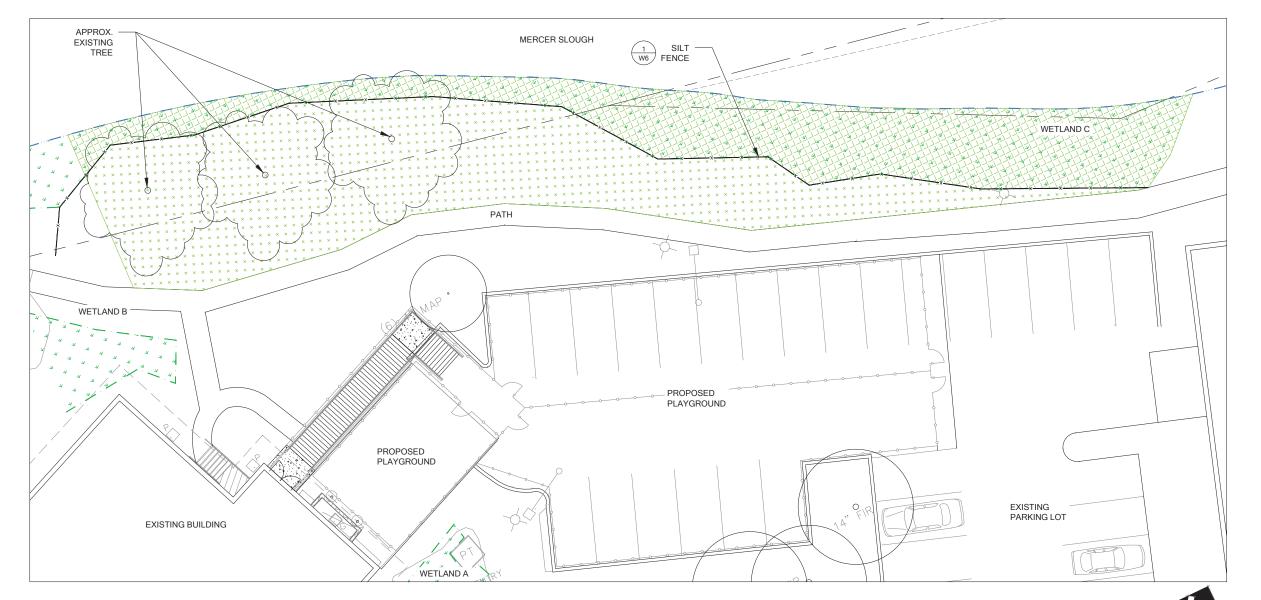


#### **LEGEND**

— APPROXIMATE OHWM GPS DERIVED WETLAND BOUNDARY SOIL PREPARATION AREA 1 SOIL PREPAIL
SILT FENCE SOIL PREPARATION AREA 2

- NOTES

  1. IT IS ASSUMED THE ENTIRE PROJECT AREA IS WITHIN A CRITICAL AREA BUFFER.
- 2. NO GRADING TO BE DONE WITHIN
  DELINEATED CRITICAL AREAS. FLAGS SHALL
  BE PRESENT THROUGH THE DURATION OF
  THE MITIGATION WORK.



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JOB NUMBER: 160642 SHEET NUMBER:

SITE PREPARATION PLAN

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750 Sixth Street South Kirkland WA 98033

MITIGATION PLAN PREPARED FOR S ACKERMAN/JPC ARCHITECTS 1150 114TH AVE SE BELLEVUE, WA 98004 CHRIS,

PRIMROSE DAYCARE

SHEET SIZE: ORIGINAL PLAN IS 22" x 34". SCALE ACCORDINGLY. PROJECT MANAGER:KMB DESIGNED: KMB

DRAFTED: CHECKED: RW/NL/KB

OF 6

PLANTING SCH	lEDULE			
	TREES BETULA PAPYRIFERA / PAPER BIRCH	QTY 4	SPACING ALL TREES TO	SIZE 2 GAL.
	FRAXINUS LATIFOLIA / OREGON ASH	4	BE SPACED PER PLAN	2 GAL.
	PINUS CONTORTA / SHORE PINE	2		2 GAL.
8	PICEA SITCHENSIS / SITKA SPRUCE	8		2 GAL.
+	THUJA PLICATA / WESTERN REDCEDAR	7		2 GAL.
	SHRUBS ACER CIRCINATUM / VINE MAPLE	3	ALL SHRUBS TO	1 GAL.
	CORNUS SERICEA / RED-OSIER DOGWOOD	30	BE SPACED PER PLAN	1 GAL.
	PHILADELPHUS LEWISII / MOCK ORANGE	6	FLITFLAN	1 GAL.
	RIBES DIVARICATUM / COAST BLACK GOOSEBERRY	6		1 GAL.
	PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK	22		1 GAL.
	RUBUS SPECTABILIS / SALMONBERRY	4		1 GAL.
•	SYMPHORICARPOS ALBUS / SNOWBERRY	7		1 GAL.
*	ROSA PISOCARPA / CLUSTER ROSE	22		1 GAL.

GROUNDCOVER AND PERENNIALS* *ALL SPECIES TO BE SPACED TRIANGULARLY	QTY	SPACING	SIZE
ATHYRIUM FILIX-FEMINA / LADY FERN CAREX LENTICULARIS / SHORE SEDGE	80 80	24" O.C. 24" O.C.	1 GAL. 1 GAL.
iris tenax / Oregon iris OXALIS OREGANA / REDWOOD SORREL FESTUCA IDAHOENSIS / IDAHO FESCUE LUPINUS POLYPHYLLUS / BIGLEAF LUPINE	80 80 80 80	18" O.C. 18" O.C. 18" O.C. 18" O.C.	BULB 4" POT 4" POT 4" POT
GAULTHERIA SHALLON / SALAL MAHONIA NERVOSA / LOW OREGON GRAPE POLYSTICHUM MUNITUM / SWORD FERN (PLANT BY SPECIES IN ODD GROUPS OF 3-5)	50 50 50	24" O.C. 24" O.C. 24" O.C.	1 GAL. 1 GAL. 1 GAL.
LIVE STAKES: (PLANT BY SPECIES IN ODD GROUPS SALIX LASIANDRA / PACIFIC WILLOW SALIX SITCHENSIS / SITKA WILLOW SALIX SCOULERIANA / SCOULER'S WILLOW CORNUS SERICEA / RED-TWIG DOGWOOD POPULUS BALSAMIFERA / COTTONWOOD	OF 5-7) 320 320 320 320 320 320	SPACE ALL STAKES AT 12" O.C.	LIVE STAKES AT MIN. OF 4'-0" IN LENGTH.

**LEGEND** APPROXIMATE OHWM

GPS DERIVED WETLAND BOUNDARY

NOTES

1. IT IS ASSUMED THE ENTIRE PROJECT
AREA IS WITHIN A CRITICAL AREA BUFFER.



NOT FOR CONTRACTOR BIDDING

SHEET NUMBER: OF 6

SHEET SIZE: ORIGINAL PLAN IS 22" x 34". SCALE ACCORDINGLY. PROJECT MANAGER:KMB DESIGNED: DRAFTED: KMB CHECKED: RW/NL/KB JOB NUMBER: 160642

WATERSHED

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PRIMROSE DAYCARE
MITIGATION PLAN
PREPARED FOR
AIS ACKERMAN/JPC ARCHITECTS
1150 114TH AVE SE
BELLEVUE, WA 98004

CHRIS,

#### PLANT INSTALLATION SPECIFICATIONS

#### QUALITY ASSURANCE

- 1. PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
- PLANTS SHALL BE HEALTHY, VIGOROUS, AND WELL-FORMED WITH WELL DEVELOPED, FIBROUS ROOT SYSTEMS, FREE FROM DEAD BRANCHES OR ROOTS. PLANTS SHALL BE FREE FROM DAMAGE CAUSED BY TEMPERATURE EXTREMES, LACK OR EXCESS OF MOISTURE, INSECTS, DISEASE, AND MECHANICAL INJURY. PLANTS IN LEAF SHALL BE WELL FOLIATED AND OF GOOD COLOR. PLANTS SHALL BE HABITUATED TO THE OUTDOOR ENVIRONMENTAL CONDITIONS INTO WHICH THEY WILL BE PLANTED (HARDENED-OFF).
- TREES WITH DAMAGED, CROOKED, MULTIPLE OR BROKEN LEADERS WILL BE REJECTED. WOODY PLANTS WITH ABRASIONS OF THE BARK OR SUN SCALD WILL BE REJECTED.
- NOMENCLATURE: PLANT NAMES SHALL CONFORM TO FLORA OF THE PACIFIC NORTHWEST BY HITCHCOCK AND CRONQUIST, UNIVERSITY OF WASHINGTON PRESS, 1973 AND/OR TO A FIELD GUIDE TO THE COMMON WETLAND PLANTS OF WESTERN WASHINGTON & NORTHWESTERN OREGON, ED. SARAH SPEAR COOKE, SEATTLE AUDUBON SOCIETY, 1997.

#### DEFINITIONS

- PLANTS/PLANT MATERIALS. PLANTS AND PLANT MATERIALS SHALL INCLUDE ANY LIVE PLANT MATERIAL USED ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO CONTAINER GROWN, B&B OR BAREROOT PLANTS; LIVE STAKES AND FASCINES (WATTLES); TUBERS, CORMS, BULBS, ETC..; SPRIGS, PLUGS, AND LINERS.
- 2. CONTAINER GROWN. CONTAINER GROWN PLANTS ARE THOSE WHOSE ROOTBALLS ARE ENCLOSED IN A POT OR BAG IN WHICH

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SPECIFIED MATERIALS IN ADVANCE IF SPECIAL GROWING, MARKETING OR OTHER ARRANGEMENTS MUST BE MADE IN ORDER TO SUPPLY SPECIFIED MATERIALS.
- SUBSTITUTION OF PLANT MATERIALS NOT ON THE PROJECT LIST WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE RESTORATION CONSULTANT
- IF PROOF IS SUBMITTED THAT ANY PLANT MATERIAL SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST FOLIVALENT SIZE OR ALTERNATIVE SPECIES. WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICE.
- SUCH PROOF WILL BE SUBSTANTIATED AND SUBMITTED IN WRITING TO THE CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION.

- PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE RESTORATION CONSULTANT FOR CONFORMANCE TO SPECIFICATIONS, EITHER AT TIME OF DELIVERY ON-SITE OR AT THE GROWER'S NURSERY. APPROVAL OF PLANT MATERIALS AT ANY TIME SHALL NOT IMPAIR THE SUBSEQUENT RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK
- PLANTS INSPECTED ON SITE AND REJECTED FOR NOT MEETING SPECIFICATIONS MUST BE REMOVED IMMEDIATELY FROM SITE OR RED-TAGGED AND REMOVED AS SOON AS POSSIBLE.
  THE RESTORATION CONSULTANT MAY ELECT TO INSPECT PLANT
- MATERIALS AT THE PLACE OF GROWTH AFTER INSPECTION AND ACCEPTANCE, THE RESTORATION CONSULTANT MAY REQUIRE THE INSPECTED PLANTS BE LABELED AND RESERVED FOR PROJECT. SUBSTITUTION OF THESE PLANTS WITH OTHER INDIVIDUALS, EVEN OF THE SAME SPECIES AND SIZE, IS UNACCEPTABLE

#### MEASUREMENT OF PLANTS

- PLANTS SHALL CONFORM TO SIZES SPECIFIED UNLESS SUBSTITUTIONS ARE MADE AS OUTLINED IN THIS CONTRACT
- HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH OR ROOT TIP TO TIP. PLANT DIMENSIONS SHALL BE MEASURED WHEN THEIR BRANCHES OR ROOTS ARE IN THEIR NORMAL POSITION
- WHERE A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND AT LEAST 50% OF THE PLANTS SHALL BE AS LARGE AS THE MEDIAN OF THE SIZE RANGE. (EXAMPLE: IF THE SIZE RANGE IS 12" TO 18", AT LEAST 50% OF PLANTS MUST BE 15" TALL.).

#### SUBMITTALS

#### PROPOSED PLANT SOURCES

WITHIN 45 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT A COMPLETE LIST OF PLANT MATERIALS PROPOSED TO BE PROVIDED DEMONSTRATING CONFORMANCE WITH THE REQUIREMENTS SPECIFIED. INCLUDE THE NAMES AND ADDRESSES OF ALL GROWERS AND NURSERIES.

#### PRODUCT CERTIFICATES

- PLANT MATERIALS LIST SUBMIT DOCUMENTATION TO CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION THAT PLANT MATERIALS HAVE BEEN ORDERED. ARRANGE PROCEDURE FOR INSPECTION OF PLANT MATERIAL WITH CONSULTANT AT TIME OF SUBMISSION.
- HAVE COPIES OF VENDOR'S OR GROWERS' INVOICES OR PACKING SLIPS FOR ALL PLANTS ON SITE DURING INSTALLATION INVOICE OR PACKING SLIP SHOULD LIST SPECIES BY SCIENTIFIC NAME, QUANTITY, AND DATE DELIVERED (AND GENETIC ORIGIN IF THAT INFORMATION WAS PREVIOUSLY REQUESTED).

#### DELIVERY, HANDLING, & STORAGE

#### NOTIFICATION

CONTRACTOR MUST NOTIFY CONSULTANT 48 HOURS OR MORE IN ADVANCE OF DELIVERIES SO THAT CONSULTANT MAY ARRANGE FOR INSPECTION.

#### PLANT MATERIALS

- TRANSPORTATION DURING SHIPPING, PLANTS SHALL BE PACKED TO PROVIDE PROTECTION AGAINST CLIMATE EXTREMES, BREAKAGE AND DRYING. PROPER VENTILATION AND PREVENTION OF DAMAGE TO BARK, BRANCHES, AND ROOT SYSTEMS MUST BE ENSURED.
- SCHEDULING AND STORAGE PLANTS SHALL BE DELIVERED AS CLOSE TO PLANTING AS POSSIBLE. PLANTS IN STORAGE MUST BE PROTECTED AGAINST ANY CONDITION THAT IS DETRIMENTAL TO THEIR CONTINUED HEALTH AND VIGOR.
- HANDLING PLANT MATERIALS SHALL NOT BE HANDLED BY THE TRUNK, LIMBS, OR FOLIAGE BUT ONLY BY THE CONTAINER, BALL. BOX, OR OTHER PROTECTIVE STRUCTURE, EXCEPT BAREROOT PLANTS SHALL BE KEPT IN BUNDLES UNTIL PLANTING AND THEN HANDLED CAREFULLY BY THE TRUNK OR STEM.
- LABELS PLANTS SHALL HAVE DURABLE, LEGIBLE LABELS STATING CORRECT SCIENTIFIC NAME AND SIZE. TEN PERCENT OF CONTAINER GROWN PLANTS IN INDIVIDUAL POTS SHALL BE LABELED. PLANTS SUPPLIED IN FLATS, RACKS, BOXES, BAGS, OR BUNDLES SHALL HAVE ONE LABEL PER GROUP

#### PLANT WARRANTY

PLANTS MUST BE GUARANTEED TO BE TRUE TO SCIENTIFIC NAME AND SPECIFIED SIZE, AND TO BE HEALTHY AND CAPABLE OF VIGOROUS GROWTH

- PLANTS NOT FOUND MEETING ALL OF THE REQUIRED CONDITIONS AT THE CONSULTANT'S DISCRETION MUST BE REMOVED FROM SITE AND REPLACED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE
- PLANTS NOT SURVIVING AFTER ONE YEAR TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.

#### PLANT MATERIAL

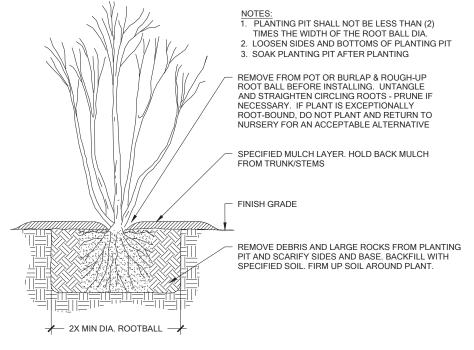
#### GENERAL

- PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO OR MORE SEVERE THAN THOSE OF THE
- PLANTS SHALL BE TRUE TO SPECIES AND VARIETY OR SUBSPECIES. NO CULTIVARS OR NAMED VARIETIES SHALL BE USED UNLESS SPECIFIED AS SUCH.

#### QUANTITIES

SEE PLANT LIST ON ACCOMPANYING PLANS AND PLANT SCHEDULES.

- CONTAINER GROWN PLANTS (INCLUDES PLUGS): PLANT ROOT BALLS MUST HOLD TOGETHER WHEN THE PLANT IS REMOVED FROM THE POT, EXCEPT THAT A SMALL AMOUNT OF LOOSE SOIL MAY BE ON THE TOP OF THE ROOTBALL.
- PLANTS MUST NOT BE ROOT-BOUND: THERE MUST BE NO CIRCLING ROOTS PRESENT IN ANY PLANT INSPECTED.
- ROOTBALLS THAT HAVE CRACKED OR BROKEN WHEN REMOVED FROM THE CONTAINER SHALL BE REJECTED.

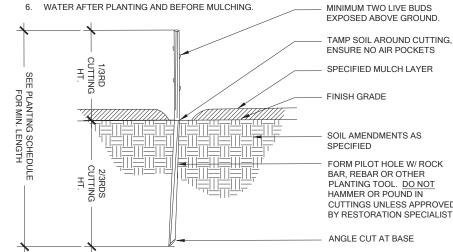


### TREE AND SHRUB PLANTING

- INSTALL HARDWOOD CUTTINGS DURING THEIR DORMANCY. DO NOT ALLOW THEM TO DRY OUT.
- CUTTINGS SHALL BE 3" TO 1" IN DIAMETER OR APPROVED
- INSTALL TO MIN. 2/3RDS DEPTH INTO SOIL. USE TRIANGULAR SPACING. SEE PLANTING SCHEDULE FOR SPACING.
- INSURE THAT BUDS ARE POINTING UP.

LIVE STAKE PLANTING

FIRM UP SOIL AROUND INSTALLED CUTTING



Scale: NTS

Scale: NTS

PERMIT SE NOT FOR CONTRACTOR BIDDING

ORIGINAL PLAN IS 22" x 34' SCALE ACCORDINGLY PROJECT MANAGER:KMB DESIGNED: KMB DRAFTED: CHECKED: RW/NL/KE JOB NUMBER

160642

SHEET NUMBER:

PLANT INSTALLATION DETAILS AND NOTES

750 Sixth Street South Kirkland WA 98033 p 425.822.5242 www.watershedco.con Science & Design

CHR

MITIGATION PLAN PREPARED FOR ACKERMAN/JPC ARCHITEC 1150 114TH AVE SE

**DAYCAR** 

RIMROSE

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#### MITIGATION PLAN NOTES

Primrose Daycare is leasing space in the Bellefield Office Park, located at 1150 114th Avenue SE in the City of Bellevue Washington. An outdoor enclosed play area is needed to augment the existing building space for daycare operations. Primrose Daycare proposes to construct a 5,965 SF playground over existing parking lot and lawn area. The project area is completely encumbered by wetland buffers. This plan seeks to enhance degraded wetland and buffer area adjacent to the Mercer Slough at a one-to-one mitigation-to-impact ratio. The combined wetland/shoreline buffer has a high potential for enhancement since the area contains invasive species and generally lacks vegetative structure. The proposed wetland and buffer enhancement plan includes removal of lawn and invasive plants and installation of a native plant community.

- 1) Establish dense and diverse native vegetation that is appropriate to the ecoregion and site within the proposed
- The enhancement area will remain substantially vegetated with a preponderance of native plants and will reduce reed canarygrass cover over time.
- Increase habitat cover and refuge for amphibians, small mammals and invertebrates and foraging and perching opportunities for birds

The standards listed below shall be used to judge the success of the installation over time. If performance standards are met at the end of Year 5, the site will then be deemed successful and any performance security bond will be eligible for release by the

- Survival:
  - a. Achieve 100% survival of installed container plants and at least 50% survival of installed live stakes by the end of Year 1. This standard can be met through plant establishment or through replanting as necessary to achieve the required numbers.
  - b. Maintain at least 50% survival of installed live stakes in Years 2 through 5.
- 2) Native cover
  - a. Achieve 40% cover of native shrubs and sapling trees by Year 3. Native volunteer species may count towards this
  - b. Achieve 60% cover of native shrubs and sapling trees by Year 5. Native volunteer species may count towards this cover standard.
- 3) Species diversity: Establish at least three native tree species, five native shrub species, and three native groundcover plants by Year 5. Native volunteer species may count towards this standard
- Invasive cover: With the exception of reed canarygrass, aerial cover for all non-native, invasive and noxious weeds will not exceed 10% at any year during the monitoring period. Reed canarygrass shall be kept clear of the drip-line or 18-inch radius of installed plants, whichever is greater. Invasive plants in the mitigation area include, but are not limited to Himalayan blackberry (Rubus armeniacus), cut leaf blackberry (Rubus laciniatus), and reed canarygrass (Phalaris

#### Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time and to measure the degree to which it is meeting the performance standards outlined elsewhere in this document.

An as-built plan will be prepared by the restoration professional (Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects) prior to the beginning of the monitoring period. The as-built plan shall be a mark-up of the planting plan included in this plan set. The as-built plan will document any departures in plant placement or other components from the proposed plan.

During the as-built inspection, the monitoring restoration professional shall install at least three 50-foot long monitoring transects. Representative photo points will also be established. Approximate transect and photo point locations shall be marked on the as-built plan.

All other planted areas not directly covered by established transects will be visually assessed and noted as to how they are

Monitoring shall take place twice annually for five years. During each year, there shall be a spring and a late summer or fall visit. Year 1 monitoring shall commence in the first spring subsequent to installation

The spring monitoring visit will record maintenance needs such as plant replacement and weeding needs. Following the spring visit the restoration professional will notify the owner and/or maintenance crews of necessary early growing seaso maintenance. The second annual monitoring visit will contain the bulk of the site assessment and will take place in the late summer or early fall. The late-season formal monitoring visit shall record and report the following in an annual report submitted

- General summary of the spring visit and documentation of completed maintenance tasks as applicable.
- Year 1 counts of live and dead plants by species
- Counts of dead plants where mortality is significant in any monitoring year.
- Estimate of native woody cover using the line intercept method along the established transect in planted areas.
- Estimate of native woody cover using the cover class method site-wide
- Estimate of non-native, invasive weed cover using the cover class method site-wide
- Tabulation of established native species, including both planted and volunteer species.
- 8) Photographic documentation from established photo points
- Any intrusions into or clearing of the planting areas, vandalism or other actions that impair the intended functions of the mitigation area.
- 10) Recommendations for maintenance or repair of any portion of the mitigation area

#### Construction Notes and Specifications

Note: specifications for items in bold can be found below under "Material Specifications and Definitions."

Note: The Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects, shall monitor

- All site preparation
  - a. Soil preparation
- b. Mulch placement
- 2) Plant material inspection
- a. Plant material delivery inspection
- b. 50% plant installation inspection
- c. 100% plant installation inspection

#### General Work Sequence

- 1) All plant installation is to take place during the dormant season (October 15th March 1st), for best survival
- 2) Ensure that the boundary of Wetland C is marked in the field prior to the beginning of construction activities.
- 3) Till in sod, and remove other undesirable plants to ground. Ensure planting areas are free of invasive weeds prior to soil preparation (see details on Sheet W3). Follow approved protocols and BMPs of the King County Noxious Weed Control Program (http://www.kingcounty.gov/weeds) for removal of listed invasive species, including Himalayan blackberry (Rubus armeniacus) and reed canarygrass (Phalaris arundinacea)
  - a) Himalayan Blackberry Removal Protocol:
  - i. For first year plants, hand-pull the stem closest to the ground and uproot the root ball
  - ii. Removal mature stems by mowing or mechanical removal. Mechanized work should be carried out so as to minimize erosion and prevent sediment-laden runoff from entering the slough
  - iii. Dig up root crowns and major side roots. Remove root fragments and stems
  - iv. Dispose of all removed vegetative material offsite
  - b) Reed Canarygrass Control Protocol

  - ii. Remove reed canarygrass, including root mat, in circular plots where live stake clusters will be installed. Take care not to alter wetland soil condition or gradient.
  - iii. Dispose of all removed reed canarygrass and root material offsite
- Amend soil as needed, outside of wetland areas and at the direction of the Restoration Professional, by applying a 2-inch layer of compost and rototilling to a depth of 12 inches until thoroughly combined. Within the drip line of trees to remain, hand till to combine as feasible, taking care not to damage tree roots.
- 5) Install a 4-inch deep layer of wood strand mulch over all planting areas outside of the wetland. Hold back mulch from stems of new plants and stems of existing plants to remain

#### Material Specifications and Definitions

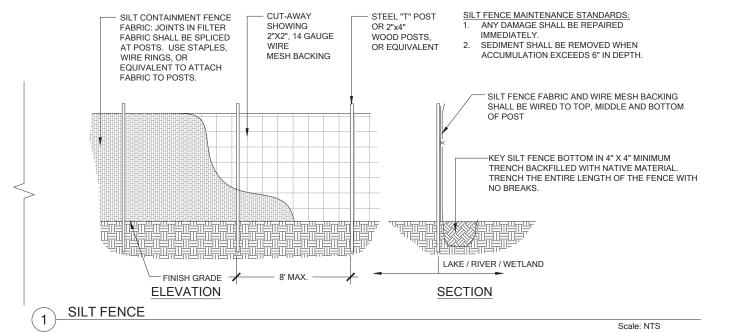
- Keep fertilizer in a weather-tight container while on site. Note that fertilizer is to be applied only in Years two, three,
- September 30 for the first two years following installation
- Restoration Professional: Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate
- 4) Wood strand mulch:
  - a) Wood strand mulch shall meet WSDOT Standard Specifications for Road, Bridge, and Municipal Construction for Wood Strand Mulch as defined 9-14.4(4). "Wood strand mulch shall be a blend of angular, loose, long, thin wood pieces that are frayed, with a high length-to-width ratio, and it shall be derived from native conifer or deciduous trees. A minimum of 95 percent of the wood strand shall have lengths between 2 and 10 inches. At least 50 percen of the length of each strand shall have a width and thickness between 1/16 and 1/2 inch. No single strand shall have a width or thickness greater than 1/2 inch. The mulch shall not contain salt, preservative, glue, resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood chips or shavings will not be acceptable. The contractor shall provide Material Safety Data Sheet (MSDS) that demonstrates that the product is not harmful to plant life and a test report performed in accordance with WSDOT Test Method 125 demonstrating
- Compost: Compost shall meet WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, 9-14.4(8) for Fine Compost

If there is a significant problem with the restoration areas meeting performance standards, a contingency plan will be developed and implemented. Contingency plans can include, but are not limited to: soil amendment; additional plant installation; and plant substitutions of type, size, quantity, and location.

#### Maintenance

The site will be maintained in accordance with the following instructions for five years following completion of the construction.

- 1) Follow the recommendations noted in the previous monitoring site visit.
- 2) Replace each plant found dead in the first summer monitoring visit during the upcoming fall dormant season (October
- 3) General weeding for all planted areas
- a. At least twice yearly, remove all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur at least twice during the spring and summer. Frequent weeding will result in lower mortality, lower plant replacement costs and will increase the likelihood that the plan meets performance standards by Year 5.
- b. More frequent weeding may be necessary depending on weed conditions that develop after plan installation.
- c. Do not weed the area near the plant bases with string trimmer (weed whacker/weed eater). Native plants are easily damaged or killed, and weeds easily recover after trimming
- Apply slow release granular fertilizer to each installed plant annually in the spring (by June 1) of Years two through five.
- Replace mulch as necessary to maintain a 4-inch-thick layer, retain soil moisture and limit weeds



- 1) Fertilizer: Slow release, granular PHOSPHOROUS-FREE fertilizer. Follow manufacturer's instructions for application.
- 2) Irrigation system: Automated system capable of delivering at least two inches of water per week from June 1 through
- environmental restoration projects.
- compliance to the specification prior to acceptance

- The property owner shall ensure that water is provided for the entire planted area with a minimum of 1 inch of water provided per week from June 1 through September 30 for at least the first two years following installation

PERMIT SE NOT FOR CONTRACTOR BIDDING

SHEET NUMBER: W6

DESIGNED:

DRAFTED:

CHECKED:

JOB NUMBER

KMB

RW/NL/KE

160642

WATERSHED

750 Sixth Street South Kirkland WA 98033 p 425.822.5242

www.watershedco.com Science & Design

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ORIGINAL PLAN IS 22" x 34' SCALE ACCORDINGLY PROJECT MANAGER:KMB

MITIGATION PLAN NOTES



January 5, 2017

Erik Peterson, Associate Vice President Wallace Properties 330 112<sup>th</sup> Avenue NE Bellevue, WA 98008

Via email: <a href="mailto:epeterson@wallaceproperties.com">epeterson@wallaceproperties.com</a>

# Re: Primrose Day Care, Bellefield Office Park, Wetland Delineation Report

The Watershed Company Reference Number: 160642

Dear Erik:

On November 30, 2016, ecologists, Nell Lund (PWS) and Rose Whitson visited the site of the proposed Primrose Day Care Play Area within the Bellefield Office Park, located at 1150 114th Avenue SE (parcel #0662880040) in Bellevue, Washington. They screened the defined study area for jurisdictional wetland and streams. This letter summarizes the findings of the study and details applicable federal, state, and local regulations. The following documents are enclosed:

- Wetland Delineation Figure
- Wetland Determination Data Forms
- 2004 Ecology Rating Forms

#### Methods

Public-domain information on the study area was reviewed for this delineation study and include the following:

- USDA Natural Resources Conservation Service, Web Soil Survey (WSS) application
- U.S. Fish and Wildlife Service National Wetland Inventory (NWI) maps
- Washington Department of Fish and Wildlife interactive mapping programs (PHS on the Web, SalmonScape)
- Washington Department of Natural Resources, Forest Practices Application Mapping Tool (FPARS)

- King County's GIS mapping website (iMAP)
- Previous TWC-authored delineation report and Vegetation Management Plan for areas within the Bellefield Office Park

#### Wetlands

The study area was evaluated for wetlands using methodology from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version* 2.0 (Regional Supplement) (US Army Corps of Engineers [Corps] May 2010). The wetland boundary was determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Regional Supplement were determined to be wetland. Soil, vegetation, and hydrologic parameters were sampled at several locations along wetland boundaries to make the determination. Six data points were recorded on-site during the wetland delineation process; they are marked with yellow- and black-striped flags.

Wetland boundary points are marked with pink- and black-striped flagging. Wetland A is marked with 26 flags. Only the edge of Wetlands B and C closest to the project area were delineated; those boundaries are marked, with 6 flags and 13 flags, respectively.

Identified wetlands within the property were classified using the *Washington State Wetland Rating System for Western Washington, Version 2* (Publication #04-06-025) (Rating System), per the City of Bellevue Land Use Code (LUC).

#### **GPS Location**

All delineation flags were GPS-located using a hand-held Trimble Geo-XH unit. Following field location, the GPS data was differentially correcting using GPS Pathfinder Office and imported into AutoCAD for mapping purposes.

### **Findings**

The study area is located within the Bellefield Office Park in Section 5 of Township 24 North, Range 5 East. It is adjacent to Mercer Slough in the Mercer Slough drainage basin of the Cedar-Sammamish Water Resource Inventory Area (WRIA 8). The property is currently zoned as Office.

The proposed location of the day care play area is over an existing asphalt parking lot. The surrounding land use is a mixture of office buildings, parking lots, sidewalks, and maintained lawn areas. Three wetlands were identified within the study area and are described below.

### **Mercer Slough**

The east channel of the Mercer Slough is located just east of the proposed day care facility. The ordinary high water mark of the stream was not flagged in the field, as the surrounding wetland (Wetland C) and its buffer are more encumbering.

#### Wetland A

Wetland A is a palustrine emergent depressional wetland located west of the proposed day care center. It is contained within a mowed and landscaped area surrounded largely by parking lot and the Conference Center building. There is an installed bioswale within the wetland with vegetation such as red-osier dogwood, cattails, soft rush, and small-fruited bulrush; the remainder consists primarily of mowed lawn grasses, three-petal bedstraw, and creeping buttercup. NRCS maps the area as Seattle muck. The soil observed at data point 1 also suggests that there are mineral soil components as well. The soil in this location is a dark brown silt loam with both redoximorphic features and depletions; it meets criteria for Redox Dark Surface (F6). Oxidized rhizospheres are also present, satisfying wetland hydrology indicator C3. Wetland A provides moderate water quality and hydrologic function because it is a closed depression that can trap limited quantities of floodwaters and nutrients.



Figure 1. Wetland A

#### Wetland B

Wetland B is a palustrine emergent depressional wetland located north and east of the proposed day care center. It is contained within a mowed and landscaped area surrounded largely by parking lot and the Conference Center building. The vegetation consists of mowed lawn grasses. NRCS maps the area as Seattle muck. The soil recorded at data point 4 is a dark brown gravelly sandy loam with redoximorphic features; it meets criteria for Redox Dark Surface (F6). Both a high water table and saturation within 12 inches were observed, satisfying wetland hydrology indicators A2 and A3. Wetland B provides moderate water quality and hydrologic function because it is a closed depression that can trap limited quantities of floodwaters and nutrients.



Figure 2. Wetland B

#### Wetland C

Wetland C is part of the large wetland complex that is Mercer Slough and is closest to the east side of the proposed day care center. It contains riverine, depressional, and lacustrine components and has thoroughly been documented in previous TWC reports on the Bellefield property (TWC 2008 and 2012). The portion of Wetland C adjacent to the proposed day care center is almost entirely a reed canarygrass monoculture along a bench of the slough. Soils sampled at data point 5 are a dark brown loam with high organic content, likely masking redoximorphic features. This area meets secondary hydrology indicators for geomorphic position (D-2) and for the FAC-Neutral test (D-5). The larger wetland unit provides high habitat function due both to a variety of different habitat structures and hydrologic structures and also due to its landscape position and function as a corridor in proximity to Lake Washington.



Figure 3. Wetland C – Mercer slough, facing south



Figure 4. Wetland C – Mercer slough, facing north

Wetland Delineation Report Peterson, E. January 5, 2017 Page 6

### **Local Regulations**

Wetlands are regulated in the City of Bellevue under the Critical Areas Ordinance within the Bellevue Land Use Code (LUC).

The study area is entirely encumbered by wetland buffers. Per LUC 20.25H.095, wetland buffer widths are determined based on wetland category, habitat function, site condition of the subject parcel (developed or undeveloped), and wetland size. Wetlands are categorized per the 2004 Ecology Rating System. The subject parcel is considered developed because there is a structure present. In addition, all three wetlands are large enough and score high enough under the rating system to not be exempted based on size.

Wetlands A and B are Category III wetlands, each with the low habitat score of 11 points. Category III wetlands on developed parcels in the City of Bellevue with habitat scores less than 20 points require a 60-foot buffer. The City of Bellevue also applies a 15-foot building setback to the Category III wetland buffers.

Wetland C is a Category II wetland with a high habitat score of 29 points. Category II wetlands in the City of Bellevue with habitat scores of 29 points or greater require a 225-foot buffer. The City of Bellevue also applies a 20-foot building setback to the Category II wetland buffers.

Buffer and setback widths may be modified through the critical areas report process (LUC 20.25H.230) if it can be shown that an enhancement plan will improve buffer function overall despite the buffer modification. Enhancement may involve removing invasive plant species, planting native vegetation, etc. An approved enhancement plan would require monitoring and maintenance in accordance with LUC 20.25H.210.

### **Shoreline Overlay District**

Mercer Slough is also regulated as a shoreline of the state under the Shoreline Overlay District (LUC 20.25E). Shoreline jurisdiction encompasses all land and associated water bodies within 200-feet of the ordinary high water mark of shoreline waterbodies. Shorelines on developed sites are required to have a 25-foot buffer in addition to a 25-foot structure setback.

Wetland Delineation Report Peterson, E. January 5, 2017 Page 7

### State and Federal Regulations

Wetlands are also regulated by the Corps under Section 404 of the Clean Water Act. Any proposed filling or other direct impacts to Waters of the U.S., including wetlands (except isolated wetlands), would require notification and permits from the Corps. Wetlands A, B, and C are not considered isolated due to proximity and/or direct connectivity with surface waters. Note that a new Clean Water Rule for wetlands and other Waters of the U.S. went into effect in August 2015; however, the rule was recently "stayed" nationwide by the 6<sup>th</sup> Circuit Court due to pending litigation. Therefore, the prior rule is in effect until further notice.

Federally permitted actions that could affect endangered species may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from the Department of Ecology and a cultural resource study in accordance with Section 106 of the National Historic Preservation Act.

In general, neither the Corps nor Ecology regulates wetland buffers, unless direct impacts are proposed. When direct impacts are proposed, mitigated wetlands may be required to employ buffers based on Corps and Ecology joint regulatory guidance.

Wetland Delineation Report Peterson, E. January 5, 2017 Page 8

### **Disclaimer**

The information contained in this letter or report is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available to us at the time the study was conducted. GPS data is believed reliable for general planning and most regulatory purposes. However, accuracy is variable and should not be considered equivalent to a professional land survey. No warranty is expressed or implied. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, State and Federal regulatory authorities. No other warranty, expressed or implied, is made.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

Nell Lund, PWS Senior Ecologist

Rose Whitson

Nell Lind

Rose Whitson Ecologist

**Enclosures** 







### **VICINITY MAPS**



- NOTES:
  1. CRITICAL AREAS DELINEATED BY THE WATERSHED COMPANY ON NOVEMBER 30, 2016.
- 2. DATA POINTS AND WETLAND DELINEATION FLAGS COLLECTED ON HANDHELD TRIMBLE UNIT, DIFFERENTIALLY CORRECTED, AND GROUNDTRUTHED BASED ON FIELD OBSERVATION AND AVAILABLE AERIAL IMAGERY.
- CRITICAL AREA BUFFERS ARE NOT DEPICTED. ENTIRE AREA IS WITHIN WETLAND BUFFERS.

### LEGEND:

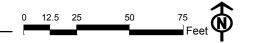
- Data Point
- Wetland Delineation Flags



**Delineated Wetland Boundary** 

Wetland Area

WETLAND DELINEATION FIGURE



WATERSHED COMPANY

750 Sixth Street South Kirkland, WA 98033

p:425.822.5242 www.watershedco.com

STREAM AND WETLAND DELINEATION FIGURE
PREPARED FOR ERIK PETERSON, WALLACE PROPERTIES
PARCEL#: 0662880040
1150 114TH AVENUE SE
BELLEVUE, WA 98004 BELLEFIELD PRIMROSE

SUBMITTALS AND REVISIONS

SHEET SIZE: 11X17 PROJECT MANAGER: KB PROJECT MANAGEDESIGNED:
DRAFTED:
CHECKED:
JOB NUMBER:
160642

SHEET NUMBER:

1 OF 1



### WETLAND DETERMINATION DATA FORM

Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 1

750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

Drain at Cita	Bellfield Primros						Compling Date:	44/20/2046		
Project Site:							Sampling Date:	11/30/2016 DP- 1		
Applicant/Owner:	Erik Peterson, W		perties	•			Sampling Point:			
Investigator:	R. Whitson, N. L						City/County:	Bellevue / Ki	ıng	
Sect., Township, Range:	S <b>5</b> T	24N F	R 05l		1		State:	WA		
Landform (hillslope, terrace,	etc): hillslope				Slope (9	%): <b>&lt;5</b>	Local relief (concar	ve, convex, none):	concave	
Subregion (LRR): A					Lat:		Long:		Datum:	
, , ,	tle musels						·			
Soil Map Unit Name: Seat							NWI classification:			
Are climatic/hydrologic cond	itions on the site typic	al for this tim	e of yea	r? [	⊠ Yes	☐ No	(If no, explain in re	marks.)		
Are "Normal Circumstances"	present on the site?			[	Yes	⊠ No				
Are Vegetation⊠, Soil □, or	Hydrology   signification	antly disturbe	ed?							
Are Vegetation□, Soil □, or	Hydrology ☐ natural	ly problemati	С				(If needed, explain	any answers in Ren	narks.)	
-							•			
SUMMARY OF FINDING	SS – Attach site m	ap showin	g sam	oling po	oint loca	tions, trans	ects, important f	eatures, etc.		
		Yes 🗵								
Hydrophytic Vegetation Pres	sent?		No							
Hydric Soils Present?		Yes 🗵	No		Is the S	Sampling Poir	nt within a Wetland	? Yes 🔀	N	No $\square$
Wetland Hydrology Present?	)	Yes 🖂	No						1	ш
Remarks: Mowed a	rea									
inou da d	. 00									
VECETATION LISS SE	iontific names of r	nlanta								
VEGETATION - Use sc	entific names of p	orants.					1			
Tree Stratum (Plot size: 5m	diam.)	Absolu	ıte %	Domin		Indicator	Dominance Tes	st Worksheet		
		Cover		Specie	s?	Status				
1.							Number of Domina		3	
2.							that are OBL, FAC	VV, or FAC:		(A)
3.							Total Number of D		4	
4.							Species Across Al	Il Strata:	4	(B)
				= Total	Cover		Percent of Domina	ant Species		
		-					that are OBL, FAC	CW, or FAC:	75	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam )									(A/B)
					· · · · · · · · · · · · · · · · · · ·	FAOU	Daniel I and a land	l \A/l l 4		
1. Symphoricarpos	aidus	3			Y	FACU	Prevalence Ind			
2. Rosa pisocarpa		7			Υ	FAC		Cover of		tiply by
3.							OBL species		x 1 =	
4.							FACW species		x 2 =	
5.							FAC species		x 3 =	
		1	0	= Total	Cover		FACU species		x 4 =	
							UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)						Column totals	(A)	(B)	
1. <b>Poa sp.</b>		8	5		Υ	FAC*				
2. Ranunculus repe	ns	3	0		Υ	FAC	Prevalence I	ndex = B / A =		
3.							1			
4.							Hydrophytic V	egetation Indicat	ors	
5.								test is > 50%		
6.								test is ≤ 3.0 *		
7.								cal Adaptations * (pr		rting
8.							☐ data in remains.	arks or on a separat	e sheet)	
9.								on-Vascular Plants *		
10.							☐ Problemation	Hydrophytic Vegeta	ation * (expla	ain)
11.								7. 1 7	- (-	
11.		4,	-	= Total	Cover		* Indicators of bud	iria aail aad watlaad	hadrala au ma	uat ha
		11	15	- 10tai	COVEI			Iric soil and wetland sturbed or problema		ust be
Woody Vine Stratum (Plot s	size.						present, uniess un	Juined of Propiettia		
,	size. )						4			
1.										
2.							Hydrophytic V			No $\square$
		_		= Total	Cover		Presen	t?	· 🖂	
		•								
% Bare Ground in Herb Stra	tum:									
Remarks: *presumed	FAC									
1										

OIL							Sampling Point -	DP-1
Profile Descri	iption: (Describe to t	ne depth needed	d to document the indica	ator or confirm	n the absence o	f indicators.		
Depth	Matrix			Redox Featur			,	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 3/2	100			71		Sandy Ioam	
	10111012		5YR 3/4	7	С	M, PL		Mixed
6-16	10YR 3/2	88	7.5YR 7/1	5	Ď	M	Silt loam	matrix
1Typo: C-Con	econtration D_Danlatic	n PM-Paduaad	Matrix, CS=Covered or C	Contact Sand C	roina 2Loo: DI	_=Pore Lining	. M. Motriy	
	•		less otherwise noted.)	oaleu Sanu G			ematic Hydric Soils <sup>3</sup>	
☐ Histosol (A		☐ Sa	indy Redox (S5)		□ 2cm	n Muck (A10)	•	
<ul><li>Histic Epip</li></ul>	pedon (A2)		ripped Matrix (S6)			Parent Mate	erial (TF2)	
☐ Black Hist	tic (A3)	☐ Lo	amy Mucky Mineral (F1) (	except MLRA	-	er (explain in	remarks)	
☐ Hydrogen			amy Gleyed Matrix (F2)					
<ul><li>Depleted I</li></ul>	Below Dark Surface (A	.11) 🗌 De	epleted Matrix (F3)					
Thick Darl	k Surface (A12)	⊠ Re	edox Dark Surface (F6)				hytic vegetation and wetla	and hydrology must
<ul><li>Sandy Mu</li></ul>	ıcky Mineral (S1)	□ De	epleted Dark Surface (F7)		be prese	ent, unless dis	sturbed or problematic	
☐ Sandy Gle	eyed Matrix (S4)	□ Re	edox Depressions (F8)					
Restrictive Lav	yer (if present):							
Туре:					Hydric soil	present?	Yes 🔀	No 🗌
Depth (inches	):						<u> </u>	_
	·							
VDROLOGY  Wetland Hydr  Primary Indic  Surface w  High Wat  Saturation  Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4)	☐ Sp☐ Wire ☐ Sa☐ Aq☐ Hy ☑ Ox☐ Prr	all that apply): arsely Vegetated Concave ater-Stained Leaves (exce It Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres alone esence of Reduced Iron (C cent Iron Reduction in Till unted or Stressed Plants (	g Living Roots C4) ed Soils (C6)	, <b>4A &amp; 4B</b> ) (B9)	☐ Wate ☐ Drain ☐ Dry-S ☐ Satui ☐ Geor ☐ Shall ☐ FAC- ☐ Raise	Indicators (2 or more requestr-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Immorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR -Heave Hummocks	<b>LRÁ 1, 2, 4A &amp; 4B</b> agery (C9)
VDROLOGY  Wetland Hydro Primary Indice Surface w High Wate Saturation Water Ma Sediment Drift Depot Algal Mat Iron Depot Surface S Inundatio (B7)	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima	Sp Sp Wa Sa Sa Aq Hy S Sc Ox	arsely Vegetated Concave ater-Stained Leaves (exce It Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres along esence of Reduced Iron (C cent Iron Reduction in Till	g Living Roots C4) ed Soils (C6)	, <b>4A &amp; 4B</b> ) (B9)	☐ Wate ☐ Drain ☐ Dry-S ☐ Satui ☐ Geor ☐ Shall ☐ FAC- ☐ Raise	er-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imnorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR	<b>LRÁ 1, 2, 4A &amp; 4B</b> agery (C9)
Wetland Hydromary Indice Surface well High Water Marger Sediment Drift Deport Algal Mater Iron Deport Surface Sediment (B7)  Field Observation	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima	Sp Sp Sq	arsely Vegetated Concave ater-Stained Leaves (exce It Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres along esence of Reduced Iron (C cent Iron Reduction in Till unted or Stressed Plants (I ner (explain in remarks)	g Living Roots C4) ed Soils (C6)	, <b>4A &amp; 4B</b> ) (B9)	☐ Wate ☐ Drain ☐ Dry-S ☐ Satui ☐ Geor ☐ Shall ☐ FAC- ☐ Raise	er-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Imnorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR	<b>LRÁ 1, 2, 4A &amp; 4B</b> agery (C9)
Primary India  Surface w High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio (B7)  Field Observa Surface Water	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima	Sp Wa Sa	arsely Vegetated Concave ater-Stained Leaves (excell Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres along esence of Reduced Iron (Ccent Iron Reduction in Till unted or Stressed Plants (her (explain in remarks)	g Living Roots C4) ed Soils (C6)	, <b>4A &amp; 4B</b> ) (B9)	☐ Wate ☐ Drain ☐ Dry-S ☐ Satui ☐ Geor ☐ Shall ☐ FAC- ☐ Raise	er-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Immorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR -Heave Hummocks	<b>LRÁ 1, 2, 4A &amp; 4B</b> agery (C9)
Wetland Hyding Primary India Surface with High Water Main Sediment Drift Depoting Algal Mater Iron Depoting Surface Surface Surface Surface Water Table Primary India	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima	Sp   Wa   Sa   Sa   Sa   Sa   Sa   Sa   Sa	arsely Vegetated Concave ater-Stained Leaves (exce It Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres along esence of Reduced Iron (C cent Iron Reduction in Till unted or Stressed Plants (I ner (explain in remarks)  Depth (in): Depth (in):	g Living Roots C4) ed Soils (C6)	, <b>4A &amp; 4B</b> ) (B9)	Wate Drain Dry-5 Satur Geor Shall FAC- Raise	er-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Immorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR -Heave Hummocks	<b>LRÁ 1, 2, 4A &amp; 4B</b> agery (C9)
Wetland Hyding Primary Indices Surface with High Water Mail Sediment Drift Deport Algal Mater Iron Deport Surface Signification (B7)  Field Observation Water Table Pesaturation President	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) cosits (B3) cor Crust (B4) cosits (B5) coil Cracks (B6) n Visible on Aerial Ima ations r Present? Present? Ves esent? Yes	Sp   Wa   Sa   Sa   Sa   Sa   Sa   Sa   Sa	arsely Vegetated Concave ater-Stained Leaves (excell Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres along esence of Reduced Iron (Ccent Iron Reduction in Till unted or Stressed Plants (her (explain in remarks)	g Living Roots C4) ed Soils (C6)	(C3)	Wate Drain Dry-5 Satur Geor Shall FAC- Raise	er-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Immorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR -Heave Hummocks	LRÁ 1, 2, 4A & 4B agery (C9)
Wetland Hyding Primary Indices Surface Water Malgal Mater Iron Deposition (B7)  Field Observation Water Table Pesaturation Precipical Concludes capilist Capital Process Concludes Capital Process Capital Pro	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima attions r Present? Yes essent? Yes ellary fringe)	Sp Wa Sa	arsely Vegetated Concave ater-Stained Leaves (exce It Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres along esence of Reduced Iron (C cent Iron Reduction in Till unted or Stressed Plants (I ner (explain in remarks)  Depth (in): Depth (in):	g Living Roots C4) ed Soils (C6) D1) (LRR A)	(C3) Wetland Hydro	Wate Drain Dry-5 Satur Geor Shall FAC- Raise	er-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Immorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR -Heave Hummocks	LRÁ 1, 2, 4A & 4B agery (C9)
Wetland Hydin Primary Indice Surface with High Water Main Sediment Drift Deportment Drift Deportment Surface Signature Surface Signature Water Table Posaturation Precipical Control C	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima attions r Present? Yes essent? Yes ellary fringe)	Sp Wa Sa	arsely Vegetated Concave ater-Stained Leaves (excell Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres along esence of Reduced Iron (Coent Iron Reduction in Till unted or Stressed Plants (iner (explain in remarks)  Depth (in): Depth (in): Depth (in):	g Living Roots C4) ed Soils (C6) D1) (LRR A)	(C3) Wetland Hydro	Wate Drain Dry-5 Satur Geor Shall FAC- Raise	er-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Immorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR -Heave Hummocks	LRÁ 1, 2, 4A & 4B agery (C9)
Wetland Hyding Primary Indices Surface Water Malgal Mater Iron Deposition (B7)  Field Observation Water Table Pesaturation Precipical Concludes capilist Capital Process Concludes Capital Process Capital Pro	rology Indicators: cators (minimum of one vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima attions r Present? Yes essent? Yes ellary fringe)	Sp Wa Sa	arsely Vegetated Concave ater-Stained Leaves (excell Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) idized Rhizospheres along esence of Reduced Iron (Coent Iron Reduction in Till unted or Stressed Plants (iner (explain in remarks)  Depth (in): Depth (in): Depth (in):	g Living Roots C4) ed Soils (C6) D1) (LRR A)	(C3) Wetland Hydro	Wate Drain Dry-5 Satur Geor Shall FAC- Raise	er-Stained Leaves (B9) (Mage Patterns (B10) Season Water Table (C2) ration Visible on Aerial Immorphic Position (D2) ow Aquitard (D3) Neutral Test (D5) ed Ant Mounds (D6) (LRR -Heave Hummocks	LRÁ 1, 2, 4A & 4B agery (C9)



DP- 2

Droject Cite:	Bellfield Primrose					Sampling Date:	11/30/2016		
Project Site: Applicant/Owner:	Erik Peterson, Walla	co Proporti	00			Sampling Date: Sampling Point:	DP- <b>2</b>		
Investigator:	R. Whitson, N. Lund	ce Propertie	62			City/County:	Bellevue / K	ina	
Sect., Township, Range:	S <b>5</b> T <b>24N</b>	I R 0	5E			State:	WA	ıııg	
Landform (hillslope, terrace,		100		Slone (	(%): <b>~5</b>	Local relief (concave		concave	
	etc). Illiisiope				(76).		s, convex, none).		
Subregion (LRR): A				Lat:		Long:		Datum:	
Soil Map Unit Name: Seatt	tle muck					NWI classification:	none listed		
Are climatic/hydrologic condi	tions on the site typical for	this time of ye	ear?	⊠ Yes	☐ No	(If no, explain in rem	narks.)		
Are "Normal Circumstances"	present on the site?		[	Yes	⊠ No				
Are Vegetation□, Soil □, or	Hydrology $\square$ significantly	disturbed?							
Are Vegetation□, Soil □, or	Hydrology ☐ naturally pro	blematic				(If needed, explain a	any answers in Ren	narks.)	
SUMMARY OF FINDING	S - Attach site man s	howing san	nnlina na	nint loca	ations trans	ects important fe	atures etc		
COMMITTED TO THE DITTE	Attuon one map o			31116 1006	ations, trans	ocoto, important ic	ataros, etc.		
Hydrophytic Vegetation Pres	ent? Yes	s 🗵 N							
Hydric Soils Present?	Yes	s 🗆 N	lo 🗵	Is the	Sampling Poi	nt within a Wetland?	Yes	] No	$\boxtimes$
Wetland Hydrology Present?	Yes	s 🗌 N	lo 🗵					1	
Remarks: Lawn are	a								
VEGETATION III		_							
VEGETATION – Use sci	entific names of plant	s.				ı			
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Specie		Indicator Status	Dominance Tes	t Worksheet		
Ornamental sprud	na en	15		Y	FAC*	Number of Dominar	nt Species		
2. Frangula purshia	•	15		· Y	FAC	that are OBL, FAC		5	(A)
3.	Ια			<u> </u>	1 40	Total Number of Do	minant		_ (A)
4.						Species Across All		5	(B)
		30	= Total	Cover		Percent of Dominar	nt Species		_ (D)
	=		_			that are OBL, FACV		100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)								_ (A/D)
Rosa pisocarpa	,	10		Υ	FAC	Prevalence Inde	v Workshoot		
2.				•	1 70	Total % (		Multiply	/ bv
3.						OBL species	<u>5070. 0.</u>	x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
		10	= Total	Cover		FACU species		x 4 =	
	_		_			UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)					Column totals	(A)	(B)	
1. Poa sp. (mowed)		99		Υ	FAC*				
<ol> <li>Ranunculus reper</li> </ol>	าร	50		Υ	FAC	Prevalence In	dex = B / A =		
3.									
4.						Hydrophytic Ve		iors	
5.									
6.						☐ Prevalence to			
7.						- · ·	al Adaptations * (pr		g
8.						data in rema	rks or on a separat	:e sheet)	
9.						☐ Wetland None	n-Vascular Plants *		
10.						☐ Problematic	Hydrophytic Vegeta	ation * (explain)	
11.									
			= Total	Cover		* Indicators of hydri			be
M		·				present, unless dist	urbed or problema	tic	
Woody Vine Stratum (Plot s	size: )					<u> </u>			
1.						-			
2.				_		Hydrophytic Ve		s 🕅 No	о П
	-		= Total	Cover		Present*	r	نكا	Ш
% Bare Ground in Herb Strat	tum:					1			
Remarks: *presumed	FAC								

SOIL Sampling Point - DP-2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type<sup>1</sup> Texture Remarks Sandy loam 0-16 10YR 3/2 100 <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Hydric soil present?  $\times$ Yes No Depth (inches): Remarks: **HYDROLOGY** 

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one require	ed: c	heck all that apply):		Seco	ndary Indicators (2 or more required):
☐ Surface water (A1)		Sparsely Vegetated Concave Surface (B8	3)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2	2, 4A & 4B) (B9)		Drainage Patterns (B10)
☐ Saturation (A3)		Salt Crust (B11)			Dry-Season Water Table (C2)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)			Geomorphic Position (D2)
☐ Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots	s (C3)		Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)			FAC-Neutral Test (D5)
☐ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)			Frost-Heave Hummocks
☐ Inundation Visible on Aerial Imagery (B7)		Other (explain in remarks)			
Field Observations					
Surface Water Present? Yes □	No	□ Depth (in):			
Water Table Present? Yes □	No	□ Depth (in):	Wetland Hydrol	oav I	Present? Yes No 🖂
Saturation Present? Yes (includes capillary fringe)	No	□ Depth (in):	,	- 5,	
Describe Recorded Data (stream gauge, mo	onito	ing well, aerial photos, previous inspections	s), if available:		
Remarks: Damp, not saturated					



	*									
Project Site:	Bellfield Primrose				Sampling	Date:	11/30/2016			
Applicant/Owner:	Erik Peterson, Walla	ce Propertie	es		Sampling		DP- 3			
Investigator:	R. Whitson, N. Lund				City/Coun		Bellevue /	King		
Sect., Township, Range:	S 5 T 24	N R 05	E		State:		WA			
Landform (hillslope, terrace,	etc): depression			Slope (%): ~2	Local relief	(concave	, convex, none):	concave		
Subregion (LRR): A				Lat:	ı	_ong:		Datum:		
Soil Map Unit Name: Seat	tle muck			•	NWI classif	ication: n	one listed			
Are climatic/hydrologic condi	tions on the site typical for	this time of year	ar?	⊠ Yes □ No	(If no, expla	ain in rema	arks.)			
Are "Normal Circumstances"	present on the site?		[	☐ Yes ⊠ No						
Are Vegetation⊠, Soil □, or										
Are Vegetation□, Soil □, or	Hydrology ☐ naturally pro	oblematic			(If needed,	explain ar	ny answers in R	emarks.)		
SUMMARY OF FINDING	S – Attach site map s	showing sam	pling po	oint locations, tran	sects, impo	rtant fea	itures, etc.			
Hydrophytic Vegetation Pres	ent? Ye	es 🗵 No	, <sub>□</sub>							
Hydric Soils Present?	Ye		_				, F	_		
Wetland Hydrology Present?			_	Is the Sampling Po	int within a W	etland?	Yes		No	X
Welland Hydrology Fresents		:5 <u> </u> INC	J 🖂							
Remarks: Lawn are	a									
VEGETATION - Use sci	entific names of plan	ts.								
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domin		Dominar	nce Test	Worksheet			
1.		Cover	Specie	s? Status	Number of	Dominan	t Species			
2.					that are Ol			1		(A)
3.					Total Num	ber of Dor	minant			(71)
4.					Species A	cross All S	Strata:	1		(B)
			= Total	Cover	Percent of			100		
					that are Ol	BL, FACW	/, or FAC:	100		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)									
1.							x Worksheet	M	ط برامندار	
3.					OBL speci	Total % C	over or	x 1 =	ultiply b	by
4.					FACW speci			x 2 =		
5.					FAC speci			x 3 =		
			= Total	Cover	FACU spe	cies		x 4 =		
					UPL speci			x 5 =		
Herb Stratum (Plot size: 1m	diam.)	400		V FAC+	Column to	tals (	(A)	(B)		
<ol> <li>Mowed grasses*</li> <li>Trifolium repens</li> </ol>		100		Y FAC* N Trace	Preva	lence Inc	dex = B / A =			
3.				ii iiace	- I icva	icrice inc	JCX - D7 A -			
4.					Hydroph	ytic Veg	etation Indic	ators		
5.					□ Don	ninance te	est is > 50%			
6.							st is ≤ 3.0 *			
7.							Adaptations * (		orting	
8.					_		ks or on a separ	•		
9.					<b>⊣</b>		Vascular Plants			
10.					☐ Prol	olematic F	lydrophytic Veg	etation * (exp	iain)	
11.			= Total	Cover	* Indicator	s of bydric	soil and wetlan	d hydrology r	must be	
			-	<del>- :</del>			rbed or problen		uai DE	
Woody Vine Stratum (Plot s	size: )									
1.					_					
2.						hytic Veg		es 🗙	No	
			= Total	Cover		Present?		<u> </u>		
% Baro Ground in Harb Street	tum:									
% Bare Ground in Herb Stra  Remarks: *presumed										
*presumed	FAC									

OIL							Sampling Point - DF	<b>2-3</b>
Profile Descrip	ption: (Describe to the	depth neede	ed to document the indica	ator or confi	rm the absenc	e of indicators	s.)	
Depth	Matrix	•		Redox Feat			İ	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-5	7.5YR 3/2	100					Sandy loam	
5-12	10YR 4/2	95	7.5YR 4/4	5	С	М	Gravelly sandy loam	
							,,	
¹Type: C=Cond	entration, D=Depletion,	RM=Reduce	d Matrix, CS=Covered or C	Coated Sand	Grains <sup>2</sup> Loc	: PL=Pore Linir	ng, M=Matrix	1
-			nless otherwise noted.)				olematic Hydric Soils³	
☐ Histosol (A	,		andy Redox (S5)			2cm Muck (A10		
☐ Histic Epip	` '		tripped Matrix (S6)			Red Parent Ma	` '	
☐ Black Histi			oamy Mucky Mineral (F1) (	(except MLR	-	Other (explain i	n remarks)	
☐ Hydrogen \$			oamy Gleyed Matrix (F2)					
•	Selow Dark Surface (A11	•	epleted Matrix (F3)		3:			
	Surface (A12)		edox Dark Surface (F6)				phytic vegetation and wetland listurbed or problematic	nyarology must
	cky Mineral (S1)		epleted Dark Surface (F7)		20 p.	occini, annoco c	and an problem and	
☐ Sandy Gie	yed Matrix (S4)	□R	edox Depressions (F8)					
Restrictive Lay	er (if present):							
Type:					Hydric s	soil present?	Yes 🔀	No
Depth (inches):	:						<del>_</del>	
Primary Indica  Surface was High Water Saturation Water Mar Sediment Drift Depo Algal Mat	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	S	k all that apply): parsely Vegetated Concav /ater-Stained Leaves (exce alt Crust (B11) quatic Invertebrates (B13) ydrogen Sulfide Odor (C1) xidized Rhizospheres alon resence of Reduced Iron (Geent Iron Reduction in Till tunted or Stressed Plants (	ept MLRA 1, g Living Roo C4) led Soils (C6	2, 4A & 4B) (B ts (C3)		r Indicators (2 or more require ter-Stained Leaves (B9) (MLR inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Image proorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A st-Heave Hummocks	AA 1, 2, 4A & 4B) ery (C9)
☐ Inundation (B7)	Visible on Aerial Image	ery 🗌 O	ther (explain in remarks)					
Field Observa	tions							
Surface Water	Present? Yes □	No ⊠	Depth (in):					
Water Table Pr	resent? Yes	No ⊠	Depth (in):		Wetland Hy	drology Prese	ent? Yes	No 🔀
Saturation Pres (includes capilla		No 🗵	Depth (in):					
Describe Reco	rded Data (stream gaug	e, monitoring	well, aerial photos, previou	us inspection	s), if available:			
Pomarka:								
Remarks:								



Decises Cites	Polifield Drimmes				C-	mulium Data.	44/20/2046			
Project Site: Applicant/Owner:	Bellfield Primrose Erik Peterson, Walla	co Proport	ioe			impling Date: impling Point:	11/30/2016 DP- 4			
Investigator:	R. Whitson, N. Lund	•	.162			ty/County:	Bellevue /	King		
Sect., Township, Range:	S <b>5</b> T <b>24</b> N		05E			ate:	WA	rung		
Landform (hillslope, terrace,				Slope (%): ~2			ve, convex, none)	: concav	е	
Subregion (LRR): <b>A</b>				Lat:		Long:	vo, convox, none)	Datum:		
<u> </u>	lla muuale			Lat.			nana liatad	Datum.		
Soil Map Unit Name: Seatt						VI classification:				
Are climatic/hydrologic condi		this time of y		⊠ Yes □ No	,	no, explain in re	marks.)			
Are "Normal Circumstances"	•		L	☐ Yes ⊠ No	)					
Are Vegetation⊠, Soil □, or Are Vegetation□, Soil □, or	, ,, ,				(If	needed explain	any answers in R	emarks)		
SUMMARY OF FINDING			mpling po	oint locations, tra						
	-			<u> </u>			<u> </u>			
Hydrophytic Vegetation Pres		_	_				_			
Hydric Soils Present?	Ye	_	No 🗆	Is the Sampling	oint wi	thin a Wetland	? Yes	$\times$	No	
Wetland Hydrology Present?	Ye	s 🗵	No 🗌							
Remarks: Lawn are	a									
VEGETATION - Use sci	entific names of plan	ts.								
						_				
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Specie		r D	ominance Te	st Worksheet			
1.		OOVCI	Орсско	o: Otatus	Nı	umber of Domin	ant Species			
2.						at are OBL, FAC		2		(A)
3.					To	otal Number of D	Oominant			(, ,)
4.					Sp	oecies Across A	ll Strata:	3		(B)
			= Total (	Cover		ercent of Domina		67		` '
	•				tha	at are OBL, FAC	CW, or FAC:	67		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)									
1.					P	revalence Ind	lex Worksheet			
2.						Total %	Cover of	!	Multiply b	Ŋ
3.						BL species		x 1 =		
4.						ACW species		x 2 =		
5.			T-1-1	2		AC species		x 3 =		
			= Total (	over		ACU species		x 4 =		
Herb Stratum (Plot size: 1m	diam )					PL species olumn totals	(A)	x 5 =		
1. Galium trifidum	ulaili.)	30		Y FACV		Jiumii totais	(A)	(B)		
2. Trifolium pretense	9	40		Y FACI		Prevalence I	ndex = B / A =			
3. Mowed lawn gras		40		Y FAC	<u>' </u>	i icvalcilice i	ndcx = B / A =			
4.					H	ydrophytic V	egetation Indic	ators		
5.					×		test is > 50%			
6.						Prevalence	test is ≤ 3.0 *			
7.						Morphologi	cal Adaptations *	(provide su	pporting	
8.						data in rem	arks or on a sepa	rate sheet)		
9.						] Wetland No	n-Vascular Plants	s *		
10.						] Problemation	Hydrophytic Veg	etation * (e:	xplain)	
11.										
		110	= Total (	Cover			ric soil and wetlar		y must be	<b>)</b>
Manada Vina Otrotama (Diata	-!· \				pr	esent, unless di	sturbed or probler	natic		
Woody Vine Stratum (Plot s	oize. )				$\dashv$					
2.					$\dashv$	Uvdranh: 4:- \	ogotation			_
۷.			= Total (	Cover	$\dashv$	Hydrophytic V Presen		res 🔀	No	
					1					
% Bare Ground in Herb Strat	tum:									
Remarks: *presumed I										
presumed i	1 AC									
ji										

SOIL									Sampl	ing Point – DF	P-4	
Profile Descri	ption: (Describe	to the de	pth neede	ed to document the	indicator or con	firm t	he absence of	f indicators				
Depth	` `	latrix			Redox Fea				<del>Í</del>			
(inches)	Color (mois		%	Color (moist)		1	Type <sup>1</sup>	Loc <sup>2</sup>	1 7	exture	R	emarks
0-6	7.5YR 3/2		100						Gravelly	sandy loam		
6-12	10YR 3/1	1	80	7.5YR 4/6	20	D		М	Gravelly loam	sandy clay		
									Iouiii			
1Tyro: C-Con	contration D-Dor	olotion PA	1_Poduco	d Matrix, CS=Covere	d or Coatod Sand	1 Grain	ns 2l oc: DI	–Poro Linin	g, M=Matrix		1	
,,	•			nless otherwise not		ı Gran			lematic Hyd	ric Soile³		
☐ Histosol (A		able to al	-	andy Redox (S5)	eu.)		_	Muck (A10	-	ric dolla		
☐ Histic Epip	edon (A2)			tripped Matrix (S6)				Parent Mat				
☐ Black Hist			□L	oamy Mucky Mineral	(F1) (except ML	<b>RA</b> 1)	☐ Othe	er (explain i	n remarks)			
☐ Hydrogen	,			oamy Gleyed Matrix		,		` '	,			
	Below Dark Surfac	e (A11)		epleted Matrix (F3)	` ,							
☐ Thick Dark	Surface (A12)	, ,	⊠R	edox Dark Surface (I	=6)		3 Indicato	ors of hydro	phytic vegeta	tion and wetland	hydrolo	ogy must
☐ Sandy Mu	cky Mineral (S1)			epleted Dark Surface	(F7)				isturbed or p		-	
-	yed Matrix (S4)			edox Depressions (F								
Pestrictive Lav	ver (if present):					I						
Type:	er (ii present).						Usalvia aail	+2	Vas	$\square$	Na	
							Hydric soil	present?	Yes	$\boxtimes$	No	
Depth (inches)	:											
Remarks:												
	,											
HYDROLOGY	ology Indicators											
	ators (minimum o		ired: chec	k all that apply):				Secondary	Indicators (2	or more require	d):	
☐ Surface w		•		parsely Vegetated Co	oncave Surface (E	38)		-	•	eaves (B9) ( <b>MLF</b>		4A & 4B)
	er Table (A2)		□ W	ater-Stained Leaves	(except MLRA 1	, 2, 4	<b>A &amp; 4B</b> ) (B9)	☐ Drai	inage Patterr	ns (B10)		
	, ,		□ s	alt Crust (B11)	•				-	er Table (C2)		
☐ Water Ma	` '			quatic Invertebrates (	B13)			•		e on Aerial Imag	ery (C9)	
□ Sediment	Deposits (B2)			ydrogen Sulfide Odoi					morphic Pos	-		
☐ Drift Depo				xidized Rhizospheres		ots (C	3)		Ilow Aquitaro			
	or Crust (B4)			resence of Reduced		`	,		C-Neutral Tes			
☐ Iron Depo				ecent Iron Reduction	, ,	6)				nds (D6) (LRR A	)	
· ·	oil Cracks (B6)			tunted or Stressed Pl	•	•			st-Heave Hur		,	
	n Visible on Aerial	Imagery		ther (explain in rema	` , `	-7						
Field Observa	ntions											
Surface Water		es 🗆	No ⊠	Depth (in):								
Water Table P		es 🛮	No [		6" BGS				10	🔽		
Saturation Pre (includes capil	sent? Ye	es 🗵	No 🗆		5" BGS	"	Vetland Hydro	ology Prese	ent? Y	es 🔀	No	
Describe Reco	orded Data (stream	n gauge, r	nonitoring	well, aerial photos, p	revious inspectio	ns), if	available:					
Remarks:	DCC = halani											
Remarks.	BGS = below (	yrouna s	ытасе									



### WETLAND DETERMINATION DATA FORM

Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 5

Project Site:	Bellfield Primros	20					Sama	ling Date:	11/30/2016			
Applicant/Owner:	Erik Peterson, W		ortics					ling Point:	DP- <b>5</b>			
	R. Whitson, N. Li		Jei lies					•	Bellevue /	King		
Investigator:			055					ounty:		King		
Sect., Township, Range:		<b>24N</b> R	05E		1		State:		WA			
Landform (hillslope, terrace,	etc): hillslope				Slope (	(%): <b>&gt;5</b>	Local r	elief (conca	ve, convex, none)	: concave	)	
Subregion (LRR): A					Lat:			Long:		Datum:		
Soil Map Unit Name: Seat	tle muck						NIVA/I ol		none listed			
					_							
Are climatic/hydrologic condi	tions on the site typica	al for this time	of year	?	⊠ Yes	☐ No	(If no,	explain in re	marks.)			
Are "Normal Circumstances"	present on the site?				⊠ Yes	☐ No						
Are Vegetation□, Soil □, or	Hydrology ☐ significa	antly disturbed	1?									
Are Vegetation□, Soil □, or	Hydrology ☐ naturall	y problematic					(If need	ded, explain	any answers in R	emarks.)		
SUMMARY OF FINDING	S – Attach site ma	ap showing	samp	ling po	oint loca	ations, trans	sects, ir	nportant f	eatures, etc.			
Hydrophytic Vegetation Pres	ent?	Yes 🗵	No									
Hydric Soils Present?		Yes 🗵	No		Is the S	Sampling Poi	nt within	a Wetland	? Yes	$\overline{X}$	No	
Wetland Hydrology Present?	)	Yes 🗵	No			<b>,.</b>						ш
······································												
Remarks: Wetland	C - Mercer Slough	•										
Nomans. Vetiana	5 - Wercer Slough	•										
VEGETATION III		.14-										
VEGETATION - Use sci	entific names of p	iants.					-					
Tree Stratum (Plot size: 5m	diam.)	Absolute	e %	Domina		Indicator	Dom	inance Te	st Worksheet			
		Cover		Specie	s?	Status						
1.									ant Species	1		
2.							that a	re OBL, FAC	CW, or FAC:	•		(A)
3.							Total I	Number of E	Dominant			
4.							Specie	es Across A	ll Strata:	1		(B)
				= Total (	Cover		Perce	nt of Domin	ant Species			. (5)
									CW, or FAC:	100		(A /D)
Santing/Shrub Stratum /Dia	at aima. Oma diama \											_ (A/B)
Sapling/Shrub Stratum (Plo	n size. Sili diaili.)											
1.							Preva		lex Worksheet			
2.								Total %	Cover of	<u>M</u>	Iultiply b	<u> Sy</u>
3.							OBL s	pecies		x 1 =		
4.							FACW	/ species		x 2 =		
5.							FAC s	pecies		x 3 =		
				= Total (	Cover		FACU	species		x 4 =		
							UPL s	pecies		x 5 =		
Herb Stratum (Plot size: 1m	diam.)							n totals	(A)	(B)		
1. Phalaris arundina		100	<del></del>		Υ	FACW			( )	(-)		
2.	<u>ocu</u>				•	17011	<b>—</b> Б,	evalence l	Index = B / A =			
3.							- ' '	Cvalcricc	illidex = D / A =			
							Llyde	anhidia V	anatation India	otoro.		
4.									egetation Indic	ators		
5.							$\boxtimes$					
6.								Prevalence	test is ≤ 3.0 *			
7.		•						Morphologi	cal Adaptations *	(provide supp	porting	
8.							7 🗆	data in rem	arks or on a sepai	rate sheet)		
9.							1 🗆	Wetland No	on-Vascular Plants	<b>*</b>		
							1 🗔		c Hydrophytic Veg		nlain)	
10.							ш	1 TODIETTIALI	c riyaropriyac veg	etation (exp	Jiaiii)	
11.							┨					
		100	<u>)                                    </u>	= Total (	Jover				Iric soil and wetlar		must be	е
Wash Visa State (2)	-!						presei	ıı, uniess di	sturbed or problen	natic		
Woody Vine Stratum (Plot s	size: )						_					
1.							4					
2.							Hyd	drophytic V	egetation 、	res 🔀	Nic	
				= Total (	Cover		1 1	Presen		eo 🔽	No	Ш
% Bare Ground in Herb Stra	tum:						1					
Remarks:							-					
nemarks.												
1												

SOIL							Sampli	ng Point –	DP-5	
Profile Descri	ption: (Describe to the	depth need	ed to document the indicato	or or confirm	the absence o	f indicators				
Depth	Matrix		R	edox Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		exture	Re	emarks
0-7	10YR 3/2	100					Loam			
7-16	10YR 3/1	100					loam		grea	asy
¹Type: C=Cond	centration, D=Depletion	, RM=Reduce	d Matrix, CS=Covered or Coa	ated Sand Gr	ains <sup>2</sup> Loc: PL	.=Pore Linin	g, M=Matrix			
Hydric Soil In			inless otherwise noted.) Sandy Redox (S5)		_	rs for Probl Muck (A10)	ematic Hydi	ric Soils³		
☐ Histic Epip	,		Stripped Matrix (S6)			Parent Mat				
☐ Black Histi			.oamy Mucky Mineral (F1) <b>(e)</b>	cept MLRA		er (explain ir	, ,			
☐ Hydrogen			.oamy Gleyed Matrix (F2)		_	(	, , , , , , , , , , , , , , , , , , , ,			
	Below Dark Surface (A1		Depleted Matrix (F3)							
	Surface (A12)	•	Redox Dark Surface (F6)		3 Indicate	ors of hydron	hytic vegeta	tion and wetl	land hydrolo	oav must
	cky Mineral (S1)		Depleted Dark Surface (F7)				sturbed or pr			3,
· -	yed Matrix (S4)		Redox Depressions (F8)							
-			(·)		1					
Type:	/er (if present):									
					Hydric soil	present?	Yes	$\boxtimes$	No	
Depth (inches)	:									
Primary Indic  Surface w High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	ology Indicators: ators (minimum of one in rater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	S	ck all that apply): sparsely Vegetated Concave Stater-Stained Leaves (exception of the context o	t MLRA 1, 2, Living Roots ) I Soils (C6)		<ul> <li>□ Watt</li> <li>□ Drain</li> <li>□ Dry-</li> <li>□ Satu</li> <li>⋈ Geon</li> <li>□ Shal</li> <li>⋈ FAC</li> <li>□ Rais</li> </ul>	Indicators (2 er-Stained Le nage Pattern Season Wate tration Visible morphic Posi low Aquitard -Neutral Tes ted Ant Moun t-Heave Hun	eaves (B9) (Mes (B10)  For Table (C2)  For Table (C3)  For Tab	MLRÁ 1, 2, 4) ) nagery (C9)	·
	n Visible on Aerial Image		Other (explain in remarks)	i) (ERR A)		□ FIOS	t-neave nuii	IIIIOCKS		
Field Observa	ations			1						
Surface Water		No 🗵	Depth (in):							
Water Table P	.00 —				Wetland Hydro	logy Proce	nt2 V		N1-	
Saturation Pre (includes capil	sent? Yes				vveuanu mydro	nogy Prese	nt? Ye	es 🔀	No	Ш
Describe Reco	orded Data (stream gaug	ge, monitoring	well, aerial photos, previous	inspections),	if available:					
Pomorko:										
Remarks:										



						<u> </u>	
Project Site:	Bellfield Primrose				Sampling Date:	11/30/2016	
Applicant/Owner:	Erik Peterson, Wallac	e Prone	rties		Sampling Date.  Sampling Point:	DP- <b>6</b>	
Investigator:	R. Whitson, N. Lund	СТТОРС	1103		City/County:	Bellevue / Ki	na
Sect., Township, Range:	S <b>5</b> T <b>24N</b>	R	05E		State:	WA	9
Landform (hillslope, terrace,				Slope (%): >5	Local relief (concave		convex
Subregion (LRR): <b>A</b>	,·			Lat:	Long:	<u> </u>	Datum:
<u> </u>	d			Lat.			Datum.
Soil Map Unit Name: Seatt					NWI classification: I		
Are climatic/hydrologic condi		nis time o		⊠ Yes □ No	(If no, explain in rem	arks.)	
Are "Normal Circumstances"	•		-	☐ Yes			
Are Vegetation⊠, Soil □, or					(If needed, explain a	any answers in Per	narke )
Are Vegetation□, Soil □, or	Hydrology ☐ naturally prob	lematic			(II fieeded, explain a	illy allowers in Rein	iaiks.)
SUMMARY OF FINDING	S – Attach site map sh	owing s	sampling po	oint locations, tran	sects, important fe	atures, etc.	
11 1 1 2 1 2 1 2 2	10 V		No $\square$		-		
Hydrophytic Vegetation Pres		_					
Hydric Soils Present?	Yes	$\boxtimes$	No 🗆	Is the Sampling Po	int within a Wetland?	Yes	No 🔀
Wetland Hydrology Present?	Yes		No 🗵				
Daniel I america	_						
Remarks: Lawn area	a						
VEGETATION – Use sci	entific names of plants				_		
Tree Stratum (Plot size: 5m		Absolute			Dominance Test	t Worksheet	
Ornamental conife		20 <b>20</b>	Specie	s? Status Y FAC	Number of Dominar	nt Species	
2.	<del>51</del>	20		I FAC	that are OBL, FACV		2
3.					Total Number of Do	minant	(A)
4.					Species Across All		<b>2</b> (B)
		20	= Total	Cover	Percent of Dominar	nt Species	
	_				that are OBL, FACV		<b>100</b> (A/E
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)						(///L
1.	,				Prevalence Inde	x Worksheet	
2.					Total % (		Multiply by
3.					OBL species		x 1 =
4.					FACW species		x 2 =
5.					FAC species		x 3 =
			= Total	Cover	FACU species		x 4 =
					UPL species		x 5 =
Herb Stratum (Plot size: 1m	diam.)				Column totals	(A)	(B)
Festuca rubra		99		Y FAC	╡	. 5/.	
2.					Prevalence In	dex = B / A =	
3.					Usadana a bustin Mar		
4.					Hydrophytic Veg		ors
5.							
6.							avida avanartina
7.						al Adaptations * (pro rks or on a separate	
8.					<b>-</b>	ı-Vascular Plants *	3 311001)
9.							stion * (aumlain)
10.					☐ Problematic I	Hydrophytic Vegeta	ition (explain)
11.		99	= Total	Cover	* Indicators of hydri	c coil and watland b	avdrology must be
	_	23			<ul> <li>* Indicators of hydrical present, unless dist</li> </ul>		
Woody Vine Stratum (Plot s	size: )				,	· ·	
1.							
2.					Hydrophytic Ve	getation	No F
			= Total	Cover	Present		No L
	_						
% Bare Ground in Herb Strat	tum:						
Remarks: *presumed I	FAC; species and indic	ator un	confirmed				
p	, -p 3						

SOIL								Sampli	ing Point -	- DP-6	
Profile Descri	ption: (Describe to	he depth need	ed to document the indic	ator or confi	rm the ab	sence of	indicators	.)			
Depth	Matri	x		Redox Feat	ures						
(inches)	Color (moist)	%	Color (moist)	%	Тур	oe <sup>1</sup>	Loc <sup>2</sup>	Т	exture	R	emarks
0-10	7.5YR 3/2	100						Loam			
10-16	10YR 3/2	90	7.5YR 3/4	10	С		М	loam			
¹Type: C=Cond	centration, D=Depleti	on, RM=Reduce	d Matrix, CS=Covered or 0	Coated Sand	Grains	<sup>2</sup> Loc: PL	=Pore Linin	g, M=Matrix		I	
Hydric Soil In			nless otherwise noted.) andy Redox (S5)			_		ematic Hyd	ric Soils³		
☐ Histosof (A	,		Stripped Matrix (S6)				Muck (A10) Parent Mat				
☐ Black Histi	, ,		oamy Mucky Mineral (F1)	(except MI P			er (explain ir	, ,			
☐ Hydrogen		_	oamy Gleyed Matrix (F2)	(CACCPI III LIV			i (explain ii	i iomano,			
	Below Dark Surface (		Depleted Matrix (F3)								
	Surface (A12)	•	Redox Dark Surface (F6)			3 Indicato	rs of hydror	hytic vegeta	ation and we	tland hydrol	oav must
	cky Mineral (S1)		epleted Dark Surface (F7)	1				sturbed or p		liana nyaror	ogy muot
-	yed Matrix (S4)		Redox Depressions (F8)	'							
-			(. o)								
,	er (if present):										
Type:					Hyd	dric soil	present?	Yes	$\boxtimes$	No	
Depth (inches)	:										
Remarks:											
HYDROLOGY	,										
	ology Indicators:										
Primary Indic  ☐ Surface w	ators (minimum of or		k all that apply): parsely Vegetated Concav	o Curtoso (P	0)		-	•	or more red		4A 9 4D\
	` ,		/ater-Stained Leaves (exc			<b>B</b> ) (B0)			eaves (B9) (	WILKA 1, 2,	4A & 4D)
☐ Saturation	er Table (A2)		alt Crust (B11)	ept wilka i,	2, 4A & 4	<b>b</b> ) (b9)		nage Patterr	er Table (C2	<b>)</b> \	
☐ Water Ma			quatic Invertebrates (B13)				-		e on Aerial I	-	١
	Deposits (B2)		ydrogen Sulfide Odor (C1)					morphic Pos		magery (C3	,
☐ Drift Depo			xidized Rhizospheres alor		ts (C3)			low Aquitaro			
-	or Crust (B4)		resence of Reduced Iron (		13 (00)			-Neutral Tes	. ,		
☐ Iron Depo			ecent Iron Reduction in Til	,	)				nds (D6) ( <b>LR</b>	RA)	
· ·	oil Cracks (B6)		tunted or Stressed Plants		,			t-Heave Hur	` , `	,	
	n Visible on Aerial Ima	<del></del>	ther (explain in remarks)	(= . ) (= )			_ 1100	t i louvo i lui	mmoono		
(B7)		• • _	, ,								
Field Observa	ations										
Surface Water		□ No ∑	Depth (in):								
Water Table P	100				\A/_4!-	ad blooder	logy Deser	m+2 ·			
Saturation Pre	103				vvetiar	ıu myaro	logy Prese	iilf Y	es	No	
(includes capil			2 op ().								
Describe Reco	orded Data (stream ga	auge, monitoring	well, aerial photos, previo	us inspection	s), if availa	able:					
Remarks:											

## WETLAND RATING FORM - WESTERN WASHINGTON

 $Version\ 2-Updated\ July\ 2006\ to\ increase\ accuracy\ and\ reproducibility\ among\ users\ Updated\ Oct\ 2008\ with\ the\ new\ WDFW\ definitions\ for\ priority\ habitats$ 

Name of wetland: Wetland A	Date of Site visit: <u>11/30/2016</u>
Rated by: R. Whitson, N. Lund Trained by Ecology? Y	es⊠ No□ Date of Training: 10/2008
SEC: <u>5</u> TWNSHP: <u>24N</u> RNGE: <u>05E</u> Is S/T/R in Apper	ndix D? Yes□ No ⊠
SUMMARY OF	RATING
Category based on FUNCTIONS provided by I □ II □ III ⋈ IV □  Category I = Score ≥70	
Cotogory II - Soore 51 60	ore for Water Quality Functions 22 Score for Hydrologic Functions 8
Category III = Score 30-50	Score for Habitat Functions 11
Category IV = Score < 30	TOTAL score for functions 41
Category based on SPECIAL CHARACTER I $\square$ II $\square$ Does not Apply $\boxtimes$	ISTICS of wetland
Final Category (choose the "highe	est" category from above)
Check the appropriate type and class of wetla	
Wetland Type  Estuarine	Wetland Class  Depressional
Natural Heritage Wetland	Riverine
Bog	Lake-fringe
Mature Forest	Slope
Old Growth Forest	Flats

Freshwater Tidal

Check if unit has multiple

HGM classes present

 $\boxtimes$ 

Coastal Lagoon

None of the above

Interdunal

# Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?  For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?  For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

<sup>\*</sup>The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<a href="http://wdfw.wa.gov/mapping/phs/">http://wdfw.wa.gov/mapping/phs/</a>).

# To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

# Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? $\boxtimes$ NO – go to 2 $\square$ <b>YES</b> – the wetland class is <b>Tidal Fringe</b>
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? <b>YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe</b> ( <b>Estuarine</b> )
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. If it is Saltwater Tidal Fringe it is rated as an <b>Estuarine</b> wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit $\boxtimes$ NO – go to 3 $\square$ YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for <b>Depressional</b> wetlands.
3.	Does the entire wetland unit <b>meet both</b> of the following criteria?  ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;  ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?  ☑ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ☐ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.  ☐ The water leaves the wetland <b>without being impounded</b> ?  NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter
	and less than a foot deep). $\boxtimes$ NO – go to 5 $\square$ YES – The wetland class is Slope

Wetland A – Bellefield Primrose (TWC # 160642)

5.	Does the entire wetland unit <b>meet all</b> of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	$\boxtimes$ NO - go to 6 $\square$ <b>YES</b> – The wetland class is <b>Riverine</b>
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. $\square$ NO – go to 7 $\square$ YES – The wetland class is <b>Depressional</b>
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.     YES - The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	D 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 38)
	D 1.1 Characteristics of surface water flows out of the wetland:	_
D	Unit is a depression with no surface water leaving it (no outlet)points = 3	
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints $= 2$	
	Unit has an unconstricted, or slightly constricted, surface outlet ( $permanently flowing$ )points = 1	3
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and	
	<b>no obvious natural outlet</b> , and/or outlet is a man-made ditchpoints = 1	
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
_	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).	_
D	YES points = 4	5
	NO points = 0	
_	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	
D	Wetland has persistent, ungrazed, vegetation > = 95% of areapoints = 5	
	Wetland has persistent, ungrazed, vegetation $> = 1/2$ of areapoints $= 3$	1
	Wetland has persistent, ungrazed vegetation $> 1/10$ of areapoints = 1	
	Wetland has persistent, ungrazed vegetation <1/10 of areapoints = 0	
ъ	D1.4 Characteristics of seasonal ponding or inundation.	
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime	
	during the year. Do not count the area that is permanently ponded. Estimate area as the	
	average condition 5 out of 10 yrs.	2
	Area seasonally ponded is > ½ total area of wetland points = 4	
	Area seasonally ponded is $> \frac{1}{4}$ total area of wetland	
	NOTE: See text for indicators of seasonal and permanent inundation.	
D	Total for D 1  Add the points in the boxes above	11
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?	(see p. 44)
_	Answer YES if you know or believe there are pollutants in groundwater or surface water coming	(see p. 11)
	into the wetland that would otherwise reduce water quality in streams, lakes or groundwater	
	downgradient from the wetland? Note which of the following conditions provide the sources of	
	pollutants. A unit may have pollutants coming from several sources, but any single source would	
	qualify as opportunity.	
	☐ Grazing in the wetland or within 150 ft	
	☐ Untreated stormwater discharges to wetland	
	☐ Tilled fields or orchards within 150 ft of wetland	multiplier
	A stream or culvert discharges into wetland that drains developed areas, residential	munipher
		2
	areas, farmed fields, roads, or clear-cut logging	_
	Residential, urban areas, golf courses are within 150 ft of wetland	
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen	
	☐ Other	
	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1	
D	<u>TOTAL</u> - Water Quality Functions Multiply the score from D1 by D2  Add score to table on p. 1	22

D 3. Does the wetland have the potential to reduce flooding and erosion?  D 3.1 Characteristics of surface water flows out of the wetland unit  Unit is a depression with no surface water leaving it (no outlet)	(see p. 46) = 4 = 2	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?
D 3. Does the wetland have the potential to reduce flooding and erosion?  D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	(see p. 46) = 4 = 2	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?
D 3.1 Characteristics of surface water flows out of the wetland unit  Unit is a depression with no surface water leaving it (no outlet)	= 4 = 2	
Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow a no obvious natural outlet, and/or outlet is a man-made ditch	= 2	D 3.1 Characteristics of surface water flows out of the wetland unit
Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow a no obvious natural outlet, and/or outlet is a man-made ditch points (If ditch is not permanently flowing treat unit as "intermittently flowing")  Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points  D 3.2 Depth of storage during wet periods  Estimate the height of ponding above the bottom of the outlet For units with no outlet measure for the surface of permanent water or deepest part (if dry).  Marks of ponding are at least 3 ft or more above the surface or bottom of outlet points. The wetland is a "headwater" wetland" points. Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points. Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points. Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water points. Marks of ponding less than 0.5 ft points.  D 3.3 Contribution of wetland unit to storage in the watershed		Unit is a depression with no surface water leaving it (no outlet)points = 4
no obvious natural outlet, and/or outlet is a man-made ditch	-	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2
(If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points  D 3.2 Depth of storage during wet periods  Estimate the height of ponding above the bottom of the outlet For units with no outlet measure fit the surface of permanent water or deepest part (if dry).  Marks of ponding are at least 3 ft or more above the surface or bottom of outlet points. The wetland is a "headwater" wetland" points.  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points. Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet. points. Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water points. Marks of ponding less than 0.5 ft points.  D 3.3 Contribution of wetland unit to storage in the watershed	and 4	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and
Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points  D 3.2 Depth of storage during wet periods  Estimate the height of ponding above the bottom of the outlet For units with no outlet measure fit the surface of permanent water or deepest part (if dry).  Marks of ponding are at least 3 ft or more above the surface or bottom of outlet points. The wetland is a "headwater" wetland"	= 1	<b>no obvious natural outlet</b> , and/or outlet is a man-made ditchpoints = 1
D 3.2 Depth of storage during wet periods  Estimate the height of ponding above the bottom of the outlet For units with no outlet measure for the surface of permanent water or deepest part (if dry).  Marks of ponding are at least 3 ft or more above the surface or bottom of outlet points. The wetland is a "headwater" wetland" points. Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points. Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points. Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water points. Marks of ponding less than 0.5 ft points.  D 3.3 Contribution of wetland unit to storage in the watershed		
Estimate the height of ponding above the bottom of the outlet For units with no outlet measure for the surface of permanent water or deepest part (if dry).  Marks of ponding are at least 3 ft or more above the surface or bottom of outlet points. The wetland is a "headwater" wetland" points. Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points. Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points. Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water points. Marks of ponding less than 0.5 ft points. D 3.3 Contribution of wetland unit to storage in the watershed.	= 0	Unit has an unconstricted, or slightly constricted, surface outlet ( $permanently flowing$ )points = 0
the surface of permanent water or deepest part (if dry).  Marks of ponding are at least 3 ft or more above the surface or bottom of outlet		
Marks of ponding are at least 3 ft or more above the surface or bottom of outlet points. The wetland is a "headwater" wetland" points Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points. Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points. Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water points. Marks of ponding less than 0.5 ft points. D 3.3 Contribution of wetland unit to storage in the watershed	om	
The wetland is a "headwater" wetland"		
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points  Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water points  Marks of ponding less than 0.5 ft points  D D 3.3 Contribution of wetland unit to storage in the watershed		
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points  Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that  trap water points  Marks of ponding less than 0.5 ft points  D D 3.3 Contribution of wetland unit to storage in the watershed		
Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water points Marks of ponding less than 0.5 ft points  D D 3.3 Contribution of wetland unit to storage in the watershed	= 5	
trap water	= 3	
Marks of ponding less than 0.5 ft		
<b>D</b> D 3.3 Contribution of wetland unit to storage in the watershed		
	= 0	
area of the wetland unit itself.		
	= 5	The area of the basin is less than 10 times the area of the unitpoints = 5
		The area of the basin is 10 to 100 times the area of the unit
		The area of the basin is more than 100 times the area of the unitpoints = $0$
		Entire unit is in the FLATS classpoints = 5
D Total for D 3 Add the points in the boxes above	4	
D <b>D</b> 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?
Answer YES if the unit is in a location in the watershed where the flood storage, or reduction	in	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in
		water velocity, it provides helps protect downstream property and aquatic resources from flooding
		or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled
	re than	by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than
90% of the water in the wetland is from groundwater in areas where damaging groundwater		
flooding does not occur.		
Note which of the following conditions apply.		_ ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `
Wetland is in a headwater of a river or stream that has flooding problems	multiplier	Wetland is in a headwater of a river or stream that has flooding problems
☐ Wetland drains to a river or stream that has flooding problems		☐ Wetland drains to a river or stream that has flooding problems
	v into 2	
a river or stream that has flooding problems		a river or stream that has flooding problems
Other		☐ Other
☐ YES multiplier is 2 ☐ NO multiplier is 1	1	
<b>D TOTAL - Hydrologic Functions</b> Multiply the score from D 3 by <i>Add score to table on</i>		☐ YES multiplier is 2 ☐ NO multiplier is 1

These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat		
H 1. Does the wetland have the <u>potential</u> to provide habitat for many species?		
H 1.1 Vegetation structure (see p. 72)  Check the types of vegetation classes present (as defined by Cowardin) if the class is ½ a more than 10% of the area of the wetland if unit smaller than 2.5 acres.  Aquatic bed  Emergent plants  Scrub/shrub (areas where shrubs have >30% cover)  Forested (areas where trees have >30% cover)  Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous cover) that each cover 20% within the forested polygon  Add the number of vegetation types that qualify. If you have:  4 structures or more	0 s, moss/groundpoints = 4points = 2points = 1	
1 structure	points = 0	
H 1.2. Hydroperiods (see p. 73)  Check the types of water regimes (hydroperiods) present within the wetland. The water cover more than 10% of the wetland or ½ acre to count. (see text for descriptions of hyd.  Permanently flooded or inundated 4 or more types present  Seasonally flooded or inundated 3 types present  Occasionally flooded or inundated 2 types present  Saturated only 1 types present  Permanently flowing stream or river in, or adjacent to, the wetland  Seasonally flowing stream in, or adjacent to, the wetland  Lake-fringe wetland = 2 points  Freshwater tidal wetland = 2 points	roperiods)points = 3points = 2points = 1	
H 1.3. Richness of Plant Species (see p. 75)  Count the number of plant species in the wetland that cover at least 10 ft². (different same species can be combined to meet the size threshold)  You do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian If you counted: > 19 species	thistlepoints = 2points = 1	

H 1.4. Interspersion of habitats (see p. 76)  Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  None = 0 points	0
always "high".  H 1.5. Special Habitat Features: (see p. 77)  Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.  □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).  □ Standing snags (diameter at the bottom > 4 inches) in the wetland  □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)  □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present  □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians)  □ Invasive plants cover less than 25% of the wetland area in each stratum of plants  Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat  Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	3

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
$\square$ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.  (relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
$\square$ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	1
$\square$ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	1
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
⊠ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).	
YES = <b>4 points</b> (go to H 2.3) $NO = go to H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	1
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? <b>OR</b> a <b>Lake-fringe</b>	
wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) $NO = H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point   NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
WDFW priority habitats, and the counties in which they can be found, in the PHS report		
W	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
o `	<b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
$\boxtimes$	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species	
	of native fish and wildlife (full description in WDFW PHS report p. 152)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average	
	diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is	
	generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)	
$\boxtimes$	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a	
	dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)	4
$\boxtimes$	<b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
_	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	<b>Cliffs:</b> Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	<b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings.	
	May be associated with cliffs.	
$\boxtimes$	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay	
	characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast	
	height of $>$ 51 cm (20 in) in western Washington and are $>$ 2 m (6.5 ft) in height. Priority logs are $>$ 30cm (12 in) in diameter at the largest end, and $>$ 6m (20 ft) long.	
	If wetland has <b>3 or more</b> priority habitats = <b>4 points</b>	
	If wetland has 2 priority habitats = 3 points	
	If wetland has 1 priority habitat = 1 point	
,	No habitats = <b>0 points</b>	
	lote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby petlands are addressed in question H2.4.	
N	ениниз ите инительен т унемноп 112.4.	

# Wetland A – Bellefield Primrose (TWC # 160642)

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)  (see p. 84)  There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat  Add the scores from H2.1, H2.2, H2.3, H2.4	9
TOTAL for H1 from page 14	3
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1	11

## CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
$\Box$ The dominant water regime is tidal,	
$\square$ Vegetated, and	
$\square$ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?  ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II  Dual rating I/II
the size threshold of 1 acre.  At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.  The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
<ul> <li>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)</li> <li>S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web</li> </ul>	Cat. I
site $\square$ YES $\square$ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO $\boxtimes$	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?  YES = Category I  NO $\square$ Not a Heritage Wetland	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.)  Yes - go to Q.3  NO - go to Q.2	
<ol> <li>Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?</li> <li>Yes - go to Q.3</li> <li>NO □ is not a bog for purpose of rating</li> </ol>	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)?  Yes – Is a bog for purpose of rating  NO - go to Q.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the	
"bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)?	
YES = Category I NO $\boxtimes$ is not a bog for purpose of rating	

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.  Note: The criterion for dbh is based on measurements for upland forests.  Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO $\boxtimes$ not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
, 1 J,	
$\Box$ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to be measured near the bottom</i> )	
$\Box$ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
$\Box$ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  YES – Go to SC 5.1  NO ☒ not a wetland in a coastal lagoon	Cat. I
<ul> <li>□ The lagoon in which the wetland is located contains surgace water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)</li> <li>YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon</li> <li>SC 5.1 Does the wetland meet all of the following three conditions?</li> <li>□ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species</li> </ul>	Cat. II
<ul> <li>□ The lagoon in which the wetland is located contains surgace water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)</li> <li>YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon</li> <li>SC 5.1 Does the wetland meet all of the following three conditions?</li> <li>□ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</li> <li>□ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,</li> </ul>	
<ul> <li>□ The lagoon in which the wetland is located contains surgace water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)</li> <li>YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon</li> <li>SC 5.1 Does the wetland meet all of the following three conditions?</li> <li>□ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).</li> <li>□ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> </ul>	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula – lands west of SR 103</li> </ul>	
<ul> <li>Grayland-Westport – lands west of SR 105</li> </ul>	
<ul> <li>Ocean Shores-Copalis – lands west of SR 115 and SR 109</li> </ul>	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
YES = Category II $NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	n/a
If you answered NO for all types enter "Not Applicable" on p.1.	

## WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

maille of wellar	nd: Wetland B		Date of Site visit:	11/30/2016
Rated by: R. W	hitson, N. Lund	Trained by Ecology? Y	es⊠ No□ Date of Trainin	ng: 10/2008
•				<u> </u>
SEC: <u>3</u> TWNS	nr: <u>2411</u> RNGE	E: <u>05E</u> Is S/T/R in Appen	uix D? Tes \( \text{NO } \text{\tilit}\text{\tint{\tex{\tex	
		SUMMARY OF	RATING	
_ •		TIONS provided by	wetland	
I 🗆	II   III	IV $\square$		
Category I	= Score ≥70	Sac	re for Water Quality Functions	14
Category II	I = Score 51-69		Score for Hydrologic Functions	8
•	II = Score 30-50		Score for Habitat Functions	11
Category I	V = Score < 30		<b>TOTAL</b> score for functions	33
Category ba	sed on SPECI	IAL CHARACTER	ISTICS of wetland	
•		ot Apply ⊠		
	7. 10.			
_	tinal ( 'atagar			
F	mai Categor	y (choose the "highe	est" category from above	e) III
I	mai Categor	y (choose the "highe	st" category from above	e) III
		y (choose the "highe te type and class of wetla		e) III
	ck the appropria			
Che	ck the appropria We Estuarine	te type and class of wetland Type	nd being rated.  Wetland Class  Depressional	
Che	ck the appropria We Estuarine Natural Heritage	te type and class of wetland Type	Metland Class  Depressional  Riverine	
Che	ck the appropria We Estuarine Natural Heritage Bog	te type and class of wetland tland Type  Wetland	Wetland Class Depressional Riverine Lake-fringe	⊠ ⊠ □
Che	ck the appropria We Estuarine Natural Heritage Bog Mature Forest	te type and class of wetland Type  Wetland	Wetland Class  Depressional  Riverine  Lake-fringe  Slope	
Che	ck the appropria We Estuarine Natural Heritage Bog	te type and class of wetland Type  Wetland	Wetland Class Depressional Riverine Lake-fringe	⊠ ⊠ □

Check if unit has multiple

HGM classes present

Interdunal

None of the above

# Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?  For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

<sup>\*</sup>The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<a href="http://wdfw.wa.gov/mapping/phs/">http://wdfw.wa.gov/mapping/phs/</a>).

# To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

# Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? $\boxtimes$ NO – go to 2 $\square$ <b>YES</b> – the wetland class is <b>Tidal Fringe</b>
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? <b>YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe</b> ( <b>Estuarine</b> )
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. If it is Saltwater Tidal Fringe it is rated as an <b>Estuarine</b> wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit $\boxtimes$ NO – go to 3 $\square$ YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for <b>Depressional</b> wetlands.
3.	Does the entire wetland unit <b>meet both</b> of the following criteria?  ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;  ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?  ☑ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ☐ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.  ☐ The water leaves the wetland <b>without being impounded</b> ?  NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter
	and less than a foot deep). $\boxtimes$ NO – go to 5 $\square$ YES – The wetland class is Slope

5.	Does the entire wetland unit <b>meet all</b> of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	$\boxtimes$ NO - go to 6 $\square$ <b>YES</b> – The wetland class is <b>Riverine</b>
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.
	$\square$ NO – go to 7 $\boxtimes$ <b>YES</b> – The wetland class is <b>Depressional</b>
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	$\boxtimes$ NO – go to 8 $\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
0	V1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
D	D 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 38)		
	D 1.1 Characteristics of surface water flows out of the wetland:	_		
D	Unit is a depression with no surface water leaving it (no outlet)points = 3			
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints $= 2$			
	Unit has an unconstricted, or slightly constricted, surface outlet ( $permanently flowing$ )points = 1	3		
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and			
	<b>no obvious natural outlet</b> , and/or outlet is a man-made ditchpoints = 1			
	(If ditch is not permanently flowing treat unit as "intermittently flowing")			
_	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).			
D	YES points = 4	4		
	NO points = 0			
_	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):			
D	Wetland has persistent, ungrazed, vegetation > = 95% of areapoints = 5			
	Wetland has persistent, ungrazed, vegetation > = 1/2 of areapoints = 3	0		
	Wetland has persistent, ungrazed vegetation $> 1/10$ of area			
	Wetland has persistent, ungrazed vegetation <1/10 of areapoints = 0			
D	D1.4 Characteristics of seasonal ponding or inundation.			
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the			
	auring the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.			
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetlandpoints = 4	0		
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetland points = 2			
	Area seasonally ponded is $< \frac{1}{4}$ total area of wetland points = 0			
	Area seasonally ponded is < ¼ total area of wetlandpoints = 0  NOTE: See text for indicators of seasonal and permanent inundation.			
D	Total for D 1  Add the points in the boxes above	7		
D	D 2. Does the wetland unit have the opportunity to improve water quality?	(see p. 44)		
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming	_		
	into the wetland that would otherwise reduce water quality in streams, lakes or groundwater			
	downgradient from the wetland? Note which of the following conditions provide the sources of			
	pollutants. A unit may have pollutants coming from several sources, but any single source would			
	qualify as opportunity.			
	☐ Grazing in the wetland or within 150 ft			
	☐ Untreated stormwater discharges to wetland			
	☐ Tilled fields or orchards within 150 ft of wetland	multiplier		
	☐ A stream or culvert discharges into wetland that drains developed areas, residential			
	areas, farmed fields, roads, or clear-cut logging	2		
	Residential, urban areas, golf courses are within 150 ft of wetland			
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen			
	Other			
	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1			
D	<u>TOTAL</u> - Water Quality Functions Multiply the score from D1 by D2  Add score to table on p. 1	14		

D	Depresssional and Flats Wetlands			
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation			
	D 3. Does the wetland have the potential to reduce flooding and erosion?	(see p. 46)		
D	D 3.1 Characteristics of surface water flows out of the wetland unit	<u> </u>		
	Unit is a depression with no surface water leaving it (no outlet)points = 4			
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2			
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and	4		
	<b>no obvious natural outlet</b> , and/or outlet is a man-made ditchpoints = 1			
	(If ditch is not permanently flowing treat unit as "intermittently flowing")			
	Unit has an unconstricted, or slightly constricted, surface outlet ( <i>permanently flowing</i> )points = 0			
D	D 3.2 Depth of storage during wet periods			
	Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from			
	the surface of permanent water or deepest part (if dry).			
	Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7			
	The wetland is a "headwater" wetland"points = 5	0		
	Marks of ponding between 2 ft to $<$ 3 ft from surface or bottom of outletpoints = 5	U		
	Marks are at least 0.5 ft to < 2 ft from surface or bottom of outletpoints = 3			
	Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that			
	trap waterpoints = 1			
	Marks of ponding less than 0.5 ftpoints = 0			
D	D 3.3 Contribution of wetland unit to storage in the watershed			
	Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the			
	area of the wetland unit itself.			
	The area of the basin is less than 10 times the area of the unitpoints = 5	0		
	The area of the basin is 10 to 100 times the area of the unitpoints $= 3$			
	The area of the basin is more than 100 times the area of the unitpoints = $0$			
	Entire unit is in the FLATS class points = 5			
D	Total for D 3 Add the points in the boxes above	4		
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)		
	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in			
	water velocity, it provides helps protect downstream property and aquatic resources from flooding			
	or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled			
	by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than			
	90% of the water in the wetland is from groundwater in areas where damaging groundwater			
	flooding does not occur.			
	Note which of the following conditions apply.			
	Wetland is in a headwater of a river or stream that has flooding problems	multiplier		
	☐ Wetland drains to a river or stream that has flooding problems			
	Wetland has no outlet and impounds surface runoff water that might otherwise flow into	2		
	a river or stream that has flooding problems			
	☐ Other			
	☐ YES multiplier is 2 ☐ NO multiplier is 1			
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4	8		
	Add score to table on p. 1			

These questions apply to wetlands of all HC HABITAT FUNCTIONS - Indicators that wetland		
H 1. Does the wetland have the potential to provide	e habitat for many species?	
more than 10% of the area of the wetland if unit  ☐ Aquatic bed ☐ Emergent plants ☐ Scrub/shrub (areas where shrubs have > ☐ Forested (areas where trees have >30%	cover) cover) nopy, sub-canopy, shrubs, herbaceous, moss/ground-corested polygon	0
	1 structurepoints = 0	
cover more than 10% of the wetland or ¼ acre to complete Permanently flooded or inundated  Seasonally flooded or inundated  Occasionally flooded or inundated  Saturated only  Permanently flowing stream or river in,  Seasonally flowing stream in, or adjaced  Lake-fringe wetland = 2 points  Freshwater tidal wetland = 2 points		0
same species can be combined to meet the size You do not have to name the species. Do not include Eurasian milfoil, reed cana	and that cover at least 10 ft <sup>2</sup> . (different patches of the ethreshold)  arygrass, purple loosestrife, Canadian thistle  > 19 speciespoints = 2  5 - 19 speciespoints = 1  < 5 speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76)  Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  None = 0 points	0
H 1.5. Special Habitat Features: (see p. 77)  Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.  □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).  □ Standing snags (diameter at the bottom > 4 inches) in the wetland  □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)  □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present  □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians)  □ Invasive plants cover less than 25% of the wetland area in each stratum of plants  Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat  Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	2

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
$\square$ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.  (relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
$\square$ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	1
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
<ul><li>✓ Buffer does not meet any of the criteria above</li></ul>	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).	
YES = <b>4 points</b> (go to H 2.3) $NO = go to H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	1
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? <b>OR</b> a <b>Lake-fringe</b> wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$ ) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point   NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
	http://wdfw.wa.gov/hab/phslist.htm) ich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	<b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
$\boxtimes$	<b>Biodiversity Areas and Corridors:</b> Areas of habitat that are relatively important to various species	
	of native fish and wildlife (full description in WDFW PHS report p. 152)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	<b>Old-growth/Mature forests:</b> (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	<b>Oregon white Oak:</b> Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important ( <i>full descriptions in WDFW PHS report p. 158.</i> )	
$\boxtimes$	<b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)	4
$\boxtimes$	<b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	·
	<b>Nearshore:</b> Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	<b>Caves:</b> A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	<b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.  If wetland has 3 or more priority habitats = 4 points  If wetland has 2 priority habitats = 3 points  If wetland has 1 priority habitat = 1 point  No habitats = 0 points	
	ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby etlands are addressed in question H2.4.	

#### Wetland B – Bellefield Primrose (TWC # 160642)

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)  (see p. 84)  There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat  Add the scores from H2.1, H2.2, H2.3, H2.4	9
TOTAL for H1 from page 14	2
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1	11

#### CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
$\Box$ The dominant water regime is tidal,	
$\square$ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
YES = Go to SC 1.1 NO $\boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II  Dual rating I/II
the size threshold of 1 acre.  At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.  The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)  S/T/R information from Appendix D ⊠ or accessed from WNHP/DNR web	Cat. I
site $\square$ YES $\square$ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO $\boxtimes$	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?  YES = Category I  NO $\square$ Not a Heritage Wetland	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.)  Yes - go to Q.3  NO - go to Q.2	
<ul> <li>Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?</li> <li>Yes - go to Q.3</li> <li>NO □ is not a bog for purpose of rating</li> </ul>	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)?  Yes – Is a bog for purpose of rating  NO - go to Q.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the	
"bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)?	
YES = Category I NO $\boxtimes$ is not a bog for purpose of rating	

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO $\boxtimes$ not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
$\Box$ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to be measured near the bottom</i> )	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to be measured near the bottom</i> )  YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon  SC 5.1 Does the wetland meet all of the following three conditions?  ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. II
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to be measured near the bottom</i> )  YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon  SC 5.1 Does the wetland meet all of the following three conditions?  ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).  ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon  SC 5.1 Does the wetland meet all of the following three conditions?  ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).  ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula – lands west of SR 103</li> </ul>	
<ul> <li>Grayland-Westport – lands west of SR 105</li> </ul>	
<ul> <li>Ocean Shores-Copalis – lands west of SR 115 and SR 109</li> </ul>	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
YES = Category II $NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	n/a
If you answered NO for all types enter "Not Applicable" on p.1.	

#### WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetla	and: Wetland C		Date of Site visit: <u>11/30/2016</u>	
Rated by: R. V	Whitson, N. Lund Trained by Ecolo	gy? Y	Yes $\boxtimes$ No $\square$ Date of Training: $\underline{10/2008}$	
SEC: 5 TWN	SHP: <u>24N</u> RNGE: <u>05E</u> Is S/T/R in .	Appen	ndix D? Yes□ No ⊠	
	SUMMARY	OF	RATING	
Category ba I □	ased on FUNCTIONS provid	ed by	y wetland	
Category Category Category	I = Score ≥70 II = Score 51-69 III = Score 30-50 IV = Score < 30 ased on SPECIAL CHARAC	Š	ore for Water Quality Functions Score for Hydrologic Functions Score for Habitat Functions TOTAL score for functions  RISTICS of wetland	
I	II □ Does not Apply ⊠	11210		
	Final Category (choose the "highest" category from above)			
Ch	eck the appropriate type and class of	wetla		
	Wetland Type Estuarine		Wetland Class  Depressional	
	Natural Heritage Wetland		Riverine	
	Bog		Lake-fringe	
	Mature Forest		Slope	
	Old Growth Forest		Flats	

Freshwater Tidal

Check if unit has multiple

HGM classes present

 $\boxtimes$ 

Coastal Lagoon

None of the above

Interdunal

 $\boxtimes$ 

#### Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?  For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?  For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?	X	
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	X	

<sup>\*</sup>The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (<a href="http://wdfw.wa.gov/mapping/phs/">http://wdfw.wa.gov/mapping/phs/</a>).

# To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

#### Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? $\boxtimes$ NO – go to 2 $\square$ <b>YES</b> – the wetland class is <b>Tidal Fringe</b>
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. If it is Saltwater Tidal Fringe it is rated as an <b>Estuarine</b> wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. ).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit $\boxtimes$ NO – go to 3 $\square$ YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for <b>Depressional</b> wetlands.
3.	Does the entire wetland unit <b>meet both</b> of the following criteria?  ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;  ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?  ☑ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit <b>meet all</b> of the following criteria?  ☐ The wetland is on a slope ( <i>slope can be very gradual</i> ),  ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.  ☐ The water leaves the wetland <b>without being impounded</b> ?  NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter
	and less than a foot deep). $\boxtimes$ NO – go to 5 $\square$ YES – The wetland class is Slope

Wetland C – Bellefield Primrose (TWC # 160642)

5.	Does the entire wetland unit <b>meet all</b> of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	$\boxtimes$ NO - go to 6 $\square$ YES – The wetland class is <b>Riverine</b>
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. $\boxtimes$ NO – go to 7 $\square$ YES – The wetland class is <b>Depressional</b>
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.     VES - The wetland class is Depressional
<b>8</b> .	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes.
	For example, soons at the base of a class may and into a rivering fleedulin, and small atmosp within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Riverine, Depressional, Lacustrine

D	Depressional and Flats Wetlands	Points					
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality							
D	D 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 38)					
	D 1.1 Characteristics of surface water flows out of the wetland:						
D	Unit is a depression with no surface water leaving it (no outlet)points = 3						
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints $= 2$						
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1	3					
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and						
	no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1						
	(If ditch is not permanently flowing treat unit as "intermittently flowing")						
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).	4					
D	$ \begin{array}{c} \text{YES points} = 4 \\ \text{NO points} = 0 \end{array} $	4					
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):						
D	Wetland has persistent, ungrazed, vegetation = 95% of area						
שו	Wetland has persistent, ungrazed, vegetation $> = 1/2$ of area points $= 3$ Wetland has persistent, ungrazed, vegetation $> = 1/2$ of area points $= 3$	5					
	Wetland has persistent, ungrazed vegetation $> = 1/2$ of area	3					
	Wetland has persistent, ungrazed vegetation < 1/10 of areapoints = 0						
	D1.4 Characteristics of seasonal ponding or inundation.						
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime						
	during the year. Do not count the area that is permanently ponded. Estimate area as the						
	average condition 5 out of 10 yrs.	2					
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetland	2					
	Area seasonally ponded is $> \frac{1}{4}$ total area of wetlandpoints = 2						
	Area seasonally ponded is $< \frac{1}{4}$ total area of wetlandpoints = 0						
	NOTE: See text for indicators of seasonal and permanent inundation.						
D	Total for D 1 Add the points in the boxes above	12 (see p. 44)					
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?						
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming						
	into the wetland that would otherwise reduce water quality in streams, lakes or groundwater						
	downgradient from the wetland? Note which of the following conditions provide the sources of						
	pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.						
	Grazing in the wetland or within 150 ft						
	☐ Untreated stormwater discharges to wetland						
	☐ Tilled fields or orchards within 150 ft of wetland						
	A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging						
	Residential, urban areas, golf courses are within 150 ft of wetland						
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen						
	□ Other						
	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1						
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2  Add score to table on p. 1	24					

D	Depressional and Flats Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream of	legradation
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit	
	Unit is a depression with no surface water leaving it (no outlet)points = 4	
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2	
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow <b>and</b>	0
	<b>no obvious natural outlet</b> , and/or outlet is a man-made ditchpoints = 1	
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
	Unit has an unconstricted, or slightly constricted, surface outlet ( <i>permanently flowing</i> )points = 0	
D	D 3.2 Depth of storage during wet periods	
	Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from	
	the surface of permanent water or deepest part (if dry).	
	Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7	
	The wetland is a "headwater" wetland" points = 5	2
	Marks of ponding between 2 ft to < 3 ft from surface or bottom of outletpoints = 5	3
	Marks are at least 0.5 ft to < 2 ft from surface or bottom of outletpoints = 3	
	Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that	
	trap waterpoints = 1	
	Marks of ponding less than 0.5 ftpoints = 0	
D	D 3.3 Contribution of wetland unit to storage in the watershed	
	Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the	
	area of the wetland unit itself.	
	The area of the basin is less than 10 times the area of the unitpoints = 5	0
	The area of the basin is 10 to 100 times the area of the unitpoints = 3	
	The area of the basin is more than 100 times the area of the unitpoints = 0	
	Entire unit is in the FLATS class points = 5	
D	Total for D 3 Add the points in the boxes above	6
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 49)
	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in	•
	water velocity, it provides helps protect downstream property and aquatic resources from flooding	
	or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled	
	by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than	
	90% of the water in the wetland is from groundwater in areas where damaging groundwater	
	flooding does not occur.	
	Note which of the following conditions apply.	
	☐ Wetland is in a headwater of a river or stream that has flooding problems	
	☐ Wetland drains to a river or stream that has flooding problems	multiplier
	☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into	2
	a river or stream that has flooding problems	
	Other wetland surrounds business park	
D	<b>TOTAL - Hydrologic Functions</b> Multiply the score from D 3 by D 4  Add score to table on p. 1	12

These questions apply to wetlands of all HGM classes.  HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	ne wetland have the <u>potential</u> to provide habit		
H 1.1 Vegeta Check the	ation structure (see p. 72) types of vegetation classes present (as defined bhan 10% of the area of the wetland if unit smalle	y Cowardin) if the class is 1/4 acre or covers	
$\boxtimes$	Aquatic bed		
$\boxtimes$	Emergent plants		
$\boxtimes$	Scrub/shrub (areas where shrubs have >30% co	over)	
$\boxtimes$	Forested (areas where trees have >30% cover)		4
	Forested areas have 3 out of 5 strata (canopy, s cover) that each cover 20% within the forested umber of vegetation types that qualify. If you ha	polygon	
		4 structures or more	
H 1.2. <u>Hydroperiods (see p. 73)</u> Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ½ acre to count. (see text for descriptions of hydroperiods)			
	Permanently flooded or inundated	4 or more types presentpoints = 3	
$\boxtimes$	Seasonally flooded or inundated	3 types presentpoints = 2	
$\boxtimes$	Occasionally flooded or inundated	2 types presentpoints = 1	3
$\boxtimes$	Saturated only	1 types presentpoints = 0	
$\boxtimes$	Permanently flowing stream or river in, or adja	cent to, the wetland	
	Seasonally flowing stream in, or adjacent to, th	e wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = $2$ points		
Coun- same	ness of Plant Species (see p. 75) t the number of plant species in the wetland that species can be combined to meet the size thresho		
De	cies below if you want to:	s, purple loosestrife, Canadian thistle > 19 speciespoints = 2 5 - 19 speciespoints = 1 < 5 speciespoints = 0	2

H 1.4. <u>Interspersion of habitats (see p. 76)</u> Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
None = 0 points $Low = 1$ point $Moderate = 2$ points	
	3
[riparian braided channels]	
High = 3 points	
NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	
H 1.5. Special Habitat Features: (see p. 77)  Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	
☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
$\boxtimes$ Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present	
At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are	
permanently or seasonally inundated.(structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in each stratum of plants  Note: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat  Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	17

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
$\square$ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
	1
$\square$ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for $>$ 50% circumference	
If buffer does not meet any of the criteria above	
I	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to H 2.3) $NO = go$ to H 2.2.2 H 2.2.2 Is the wetiand part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	4
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? <b>OR</b> a <b>Lake-fringe</b>	_
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$ ) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point   NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report <a href="http://wdfw.wa.gov/hab/phslist.htm">http://wdfw.wa.gov/hab/phslist.htm</a> )	
	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	<b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
$\boxtimes$	<b>Biodiversity Areas and Corridors:</b> Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full description in WDFW PHS report p. 152</i> )	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	<b>Old-growth/Mature forests:</b> (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	<b>Oregon white Oak:</b> Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important ( <i>full descriptions in WDFW PHS report p. 158.</i> )	
$\boxtimes$	<b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	<b>Westside Prairies:</b> Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie ( <i>full descriptions in WDFW PHS report p. 161</i> )	4
$\boxtimes$	<b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	<b>Nearshore:</b> Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	<b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
⊠ N.	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.  If wetland has 3 or more priority habitats = 4 points  If wetland has 2 priority habitats = 3 points  If wetland has 1 priority habitat = 1 point  No habitats = 0 points  ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
	etlands are addressed in question H2.4.	

## Wetland C – Bellefield Primrose (TWC # 160642)

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)  (see p. 84)  There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat  Add the scores from H2.1, H2.2, H2.3, H2.4	12
TOTAL for H1 from page 14	17
<b>Total Score for Habitat Functions</b> – add the points for H 1, H 2 and record the result on p. 1	29

#### CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
$\Box$ The dominant water regime is tidal,	
$\square$ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II  Dual rating I/II
the size threshold of 1 acre.  At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.  The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

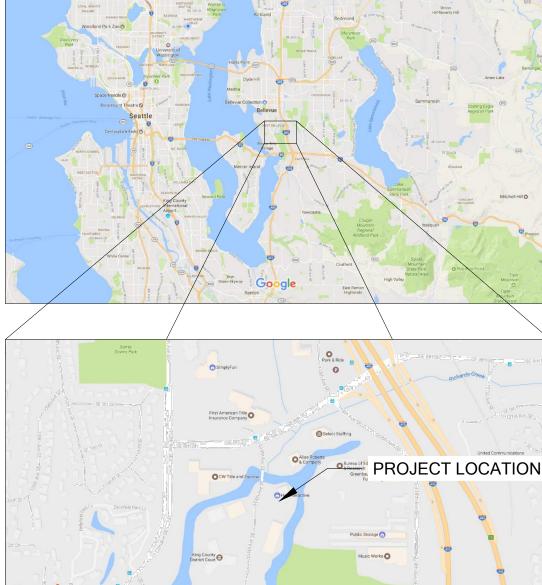
SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.  SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)  S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □  YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈  SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as	Cat. I
or as a site with state threatened or endangered plant species?  YES = Category I  NO $\square$ Not a Heritage Wetland	
SC 3.0 Bogs (see p. 87)  Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.  1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3  2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?  Yes - go to Q.3  NO □ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)?  Yes - Is a bog for purpose of rating  NO - go to Q.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat I
<ul> <li>4. Is the wetland forested (&gt;30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (&gt;30% coverage of the total shrub/herbaceous cover)?</li> <li>YES = Category I</li> <li>NO ⋈ is not a bog for purpose of rating*</li> <li>*Evaluated at project area only; wetland unit is large and may meet bog criteria elsewhere</li> </ul>	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more.  Note: The criterion for dbh is based on measurements for upland forests.  Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO $\boxtimes$ not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
$\Box$ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to be measured near the bottom</i> )	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to be measured near the bottom</i> )  YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon  SC 5.1 Does the wetland meet all of the following three conditions?  □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. II
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon ( <i>needs to be measured near the bottom</i> )  YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon  SC 5.1 Does the wetland meet all of the following three conditions?  ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).  ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon  SC 5.1 Does the wetland meet all of the following three conditions?  ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).  ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
<ul> <li>Long Beach Peninsula – lands west of SR 103</li> </ul>	
<ul> <li>Grayland-Westport – lands west of SR 105</li> </ul>	
<ul> <li>Ocean Shores-Copalis – lands west of SR 115 and SR 109</li> </ul>	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
YES = Category II $NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	n/a
If you answered NO for all types enter "Not Applicable" on p.1.	

# PRIMROSE DAYCARE





# **VICINITY MAPS**

## LEGEND

APPROXIMATE OHWM ---- APPROXIMATE MERCER SLOUGH BUFFER

## SHEET INDEX

- **EXISTING CONDITIONS**
- IMPACTS ASSESSMENT AND MITIGATION PLAN
- SITE PREPARATION PLAN
- PLANTING PLAN
- PLANTING SPECIFICATIONS AND DETAILS

## MITIGATION PLAN NOTES

- 1. CRITICAL AREAS DELINEATED AND MARKED WITH GPS POINTS BY THE WATERSHED COMPANY ON NOVEMBER 11, 2016. 2. SITE PLAN FILE RECEIVED FROM JPC ARCHITECTS ON
  - DECEMBER 20TH, 2016.
- 3. GPS DATA DISPLAYED ON THIS MAP WAS COLLECTED IN THE FIELD USING A TRIMBLE GEOXH HAND HELD UNIT. THE DATA WAS DIFFERENTIALLY CORRECTED USING TRIMBLE PATHFINDER OFFICE SOFTWARE TO FURTHER INCREASE POSITION ACCURACY. GPS DATA IS BELIEVED RELIABLE FOR GENERAL PLANNING AND MOST REGULATORY PURPOSES. HOWEVER, ACCURACY IS VARIABLE AND SHOULD NOT BE CONSIDERED EQUIVALENT TO A PROFESSIONAL LAND SURVEY. NO WARRANTY IS EXPRESSED OR IMPLIED.



SHEET SIZE: ORIGINAL PLAN IS 22" x 34". SCALE ACCORDINGLY.

PROJECT MANAGER:KMB DESIGNED: KMB DRAFTED: CHECKED: RW/NL/KB

JOB NUMBER: SHEET NUMBER:

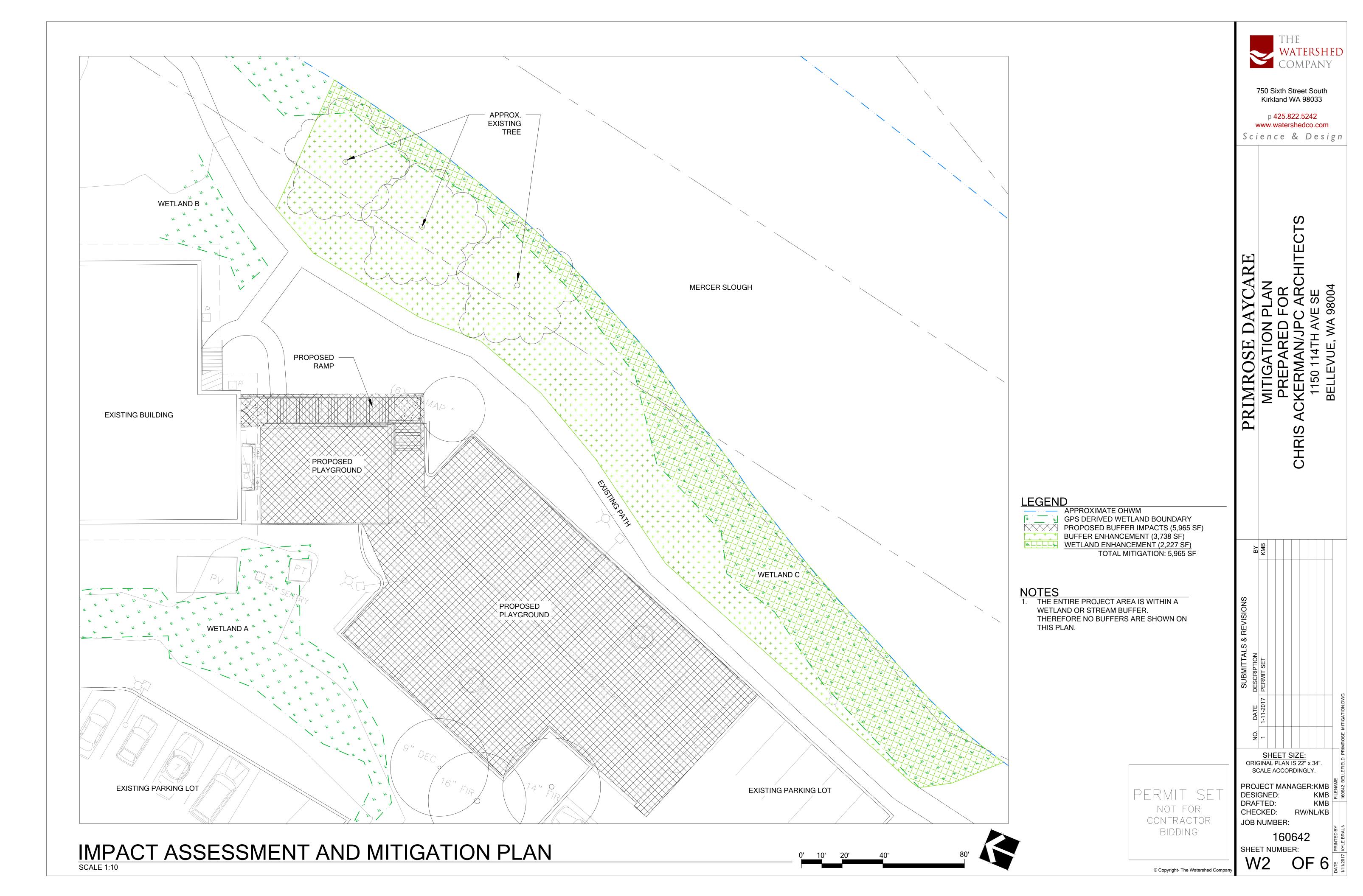
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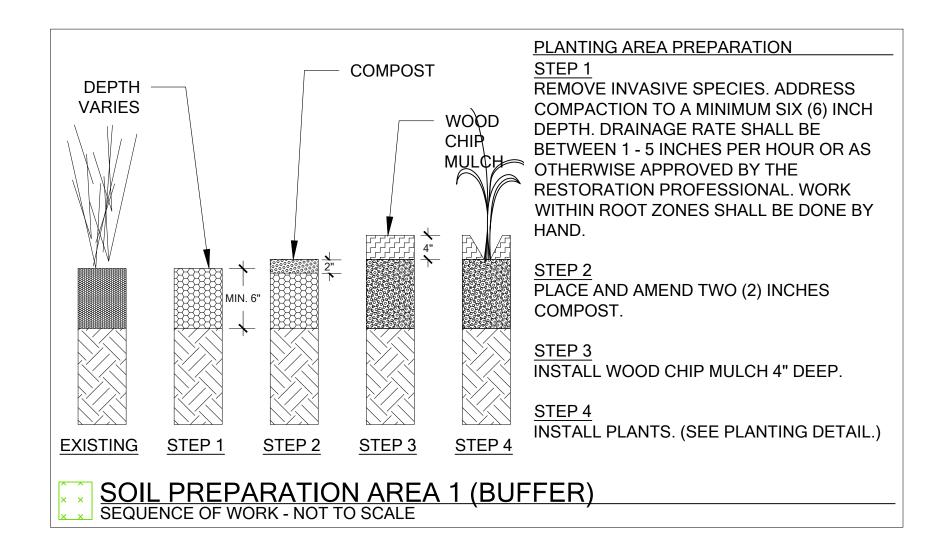
750 Sixth Street South Kirkland WA 98033

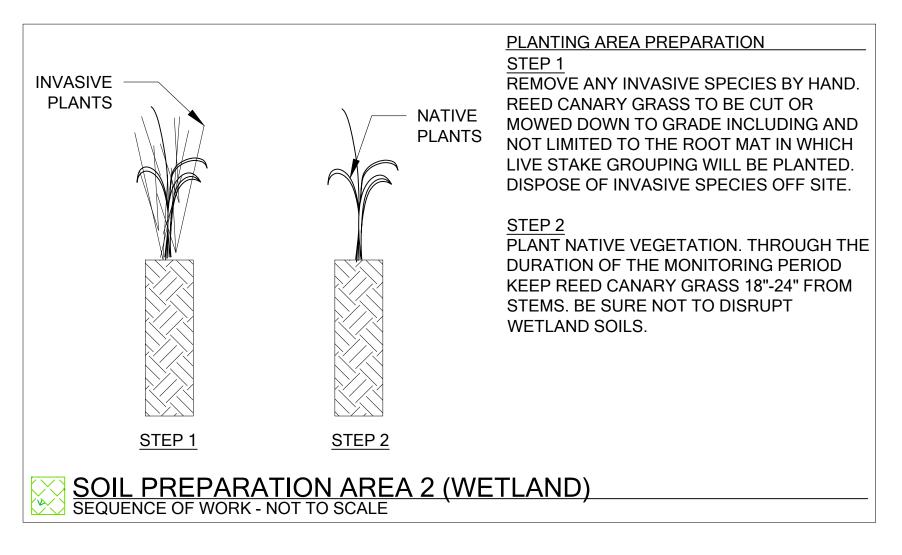
p 425.822.5242

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**EXISTING CONDITIONS** 







# <u>LEGEND</u>

APPROXIMATE OHWM **GPS DERIVED WETLAND BOUNDARY SOIL PREPARATION AREA 1 SOIL PREPARATION AREA 2** SILT FENCE

- 1. IT IS ASSUMED THE ENTIRE PROJECT AREA IS WITHIN A CRITICAL AREA BUFFER.
- 2. NO GRADING TO BE DONE WITHIN DELINEATED CRITICAL AREAS. FLAGS SHALL BE PRESENT THROUGH THE DURATION OF THE MITIGATION WORK.



SITE PREPARATION PLAN

PERMIT SE NOT FOR CONTRACTOR BIDDING

SHEET SIZE: ORIGINAL PLAN IS 22" x 34". SCALE ACCORDINGLY. DRAFTED: CHECKED: RW/NL/KB JOB NUMBER: SHEET NUMBER:

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PLANTING PLAN

**EXISTING BUILDING** 

WETLAND A

**EXISTING** PARKING LOT

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SHEET NUMBER:

p 425.822.5242

## PLANT INSTALLATION SPECIFICATIONS

#### **GENERAL NOTES**

#### **QUALITY ASSURANCE**

- PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL
- 2. PLANTS SHALL BE HEALTHY, VIGOROUS, AND WELL-FORMED, WITH WELL DEVELOPED, FIBROUS ROOT SYSTEMS, FREE FROM DEAD BRANCHES OR ROOTS. PLANTS SHALL BE FREE FROM DAMAGE CAUSED BY TEMPERATURE EXTREMES, LACK OR EXCESS OF MOISTURE, INSECTS, DISEASE, AND MECHANICAL INJURY. PLANTS IN LEAF SHALL BE WELL FOLIATED AND OF GOOD COLOR. PLANTS SHALL BE HABITUATED TO THE OUTDOOR ENVIRONMENTAL CONDITIONS INTO WHICH THEY WILL BE PLANTED (HARDENED-OFF).
- 3. TREES WITH DAMAGED, CROOKED, MULTIPLE OR BROKEN LEADERS WILL BE REJECTED. WOODY PLANTS WITH ABRASIONS OF THE BARK OR SUN SCALD WILL BE REJECTED.
- 4. NOMENCLATURE: PLANT NAMES SHALL CONFORM TO FLORA OF THE PACIFIC NORTHWEST BY HITCHCOCK AND CRONQUIST, UNIVERSITY OF WASHINGTON PRESS, 1973 AND/OR TO A FIELD GUIDE TO THE COMMON WETLAND PLANTS OF WESTERN WASHINGTON & NORTHWESTERN OREGON, ED. SARAH SPEAR COOKE, SEATTLE AUDUBON SOCIETY, 1997

- 1. PLANTS/PLANT MATERIALS. PLANTS AND PLANT MATERIALS SHALL INCLUDE ANY LIVE PLANT MATERIAL USED ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO CONTAINER GROWN, B&B OR BAREROOT PLANTS; LIVE STAKES AND FASCINES (WATTLES); TUBERS, CORMS, BULBS, ETC..; SPRIGS, PLUGS, AND LINERS.
- 2. CONTAINER GROWN. CONTAINER GROWN PLANTS ARE THOSE WHOSE ROOTBALLS ARE ENCLOSED IN A POT OR BAG IN WHICH THAT PLANT GREW.

#### SUBSTITUTIONS

- 1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SPECIFIED MATERIALS IN ADVANCE IF SPECIAL GROWING, MARKETING OR OTHER ARRANGEMENTS MUST BE MADE IN ORDER TO SUPPLY SPECIFIED MATERIALS.
- 2. SUBSTITUTION OF PLANT MATERIALS NOT ON THE PROJECT LIST WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE RESTORATION CONSULTANT.
- 3. IF PROOF IS SUBMITTED THAT ANY PLANT MATERIAL SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST EQUIVALENT SIZE OR ALTERNATIVE SPECIES WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICE.
- 4. SUCH PROOF WILL BE SUBSTANTIATED AND SUBMITTED IN WRITING TO THE CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION.

## INSPECTION

- PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE RESTORATION CONSULTANT FOR CONFORMANCE TO SPECIFICATIONS, EITHER AT TIME OF DELIVERY ON-SITE OR AT THE GROWER'S NURSERY. APPROVAL OF PLANT MATERIALS AT ANY TIME SHALL NOT IMPAIR THE SUBSEQUENT RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK
- 2. PLANTS INSPECTED ON SITE AND REJECTED FOR NOT MEETING SPECIFICATIONS MUST BE REMOVED IMMEDIATELY FROM SITE OR RED-TAGGED AND REMOVED AS SOON AS POSSIBLE
- THE RESTORATION CONSULTANT MAY ELECT TO INSPECT PLANT MATERIALS AT THE PLACE OF GROWTH. AFTER INSPECTION AND ACCEPTANCE. THE RESTORATION CONSULTANT MAY REQUIRE THE INSPECTED PLANTS BE LABELED AND RESERVED FOR PROJECT. SUBSTITUTION OF THESE PLANTS WITH OTHER INDIVIDUALS, EVEN OF THE SAME SPECIES AND SIZE, IS UNACCEPTABLE.

## MEASUREMENT OF PLANTS

- 1. PLANTS SHALL CONFORM TO SIZES SPECIFIED UNLESS SUBSTITUTIONS ARE MADE AS OUTLINED IN THIS CONTRACT.
- 2. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH OR ROOT TIP TO TIP. PLANT DIMENSIONS SHALL BE MEASURED WHEN THEIR BRANCHES OR ROOTS ARE IN THEIR NORMAL POSITION.
- WHERE A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND AT LEAST 50% OF THE PLANTS SHALL BE AS LARGE AS THE MEDIAN OF THE SIZE RANGE. (EXAMPLE: IF THE SIZE RANGE IS 12" TO 18", AT LEAST 50% OF PLANTS MUST BE 15" TALL.).

#### SUBMITTALS

## PROPOSED PLANT SOURCES

1. WITHIN 45 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT A COMPLETE LIST OF PLANT MATERIALS PROPOSED TO BE PROVIDED DEMONSTRATING CONFORMANCE WITH THE REQUIREMENTS SPECIFIED. INCLUDE THE NAMES AND ADDRESSES OF ALL GROWERS AND NURSERIES

## PRODUCT CERTIFICATES

- PLANT MATERIALS LIST SUBMIT DOCUMENTATION TO CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION THAT PLANT MATERIALS HAVE BEEN ORDERED. ARRANGE PROCEDURE FOR INSPECTION OF PLANT MATERIAL WITH CONSULTANT AT TIME OF SUBMISSION.
- HAVE COPIES OF VENDOR'S OR GROWERS' INVOICES OR PACKING SLIPS FOR ALL PLANTS ON SITE DURING INSTALLATION INVOICE OR PACKING SLIP SHOULD LIST SPECIES BY SCIENTIFIC NAME, QUANTITY, AND DATE DELIVERED (AND GENETIC ORIGIN IF THAT INFORMATION WAS PREVIOUSLY REQUESTED).

#### DELIVERY, HANDLING, & STORAGE

#### **NOTIFICATION**

CONTRACTOR MUST NOTIFY CONSULTANT 48 HOURS OR MORE IN ADVANCE OF DELIVERIES SO THAT CONSULTANT MAY ARRANGE FOR INSPECTION.

#### PLANT MATERIALS

- TRANSPORTATION DURING SHIPPING, PLANTS SHALL BE PACKED TO PROVIDE PROTECTION AGAINST CLIMATE EXTREMES, BREAKAGE AND DRYING. PROPER VENTILATION AND PREVENTION OF DAMAGE TO BARK, BRANCHES, AND ROOT SYSTEMS MUST BE ENSURED.
- SCHEDULING AND STORAGE PLANTS SHALL BE DELIVERED AS CLOSE TO PLANTING AS POSSIBLE. PLANTS IN STORAGE MUST BE PROTECTED AGAINST ANY CONDITION THAT IS DETRIMENTAL TO THEIR CONTINUED HEALTH AND VIGOR
- HANDLING PLANT MATERIALS SHALL NOT BE HANDLED BY THE TRUNK, LIMBS, OR FOLIAGE BUT ONLY BY THE CONTAINER, BALL BOX, OR OTHER PROTECTIVE STRUCTURE, EXCEPT BAREROOT PLANTS SHALL BE KEPT IN BUNDLES UNTIL PLANTING AND THEN HANDLED CAREFULLY BY THE TRUNK OR STEM.
- LABELS PLANTS SHALL HAVE DURABLE, LEGIBLE LABELS STATING CORRECT SCIENTIFIC NAME AND SIZE. TEN PERCENT OF CONTAINER GROWN PLANTS IN INDIVIDUAL POTS SHALL BE LABELED. PLANTS SUPPLIED IN FLATS, RACKS, BOXES, BAGS, OR BUNDLES SHALL HAVE ONE LABEL PER GROUP.

## WARRANTY

## PLANT WARRANTY

PLANTS MUST BE GUARANTEED TO BE TRUE TO SCIENTIFIC NAME AND SPECIFIED SIZE, AND TO BE HEALTHY AND CAPABLE OF VIGOROUS GROWTH

## REPLACEMENT

- 1. PLANTS NOT FOUND MEETING ALL OF THE REQUIRED CONDITIONS AT THE CONSULTANT'S DISCRETION MUST BE REMOVED FROM SITE AND REPLACED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- 2. PLANTS NOT SURVIVING AFTER ONE YEAR TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.

## PLANT MATERIAL

## **GENERAL**

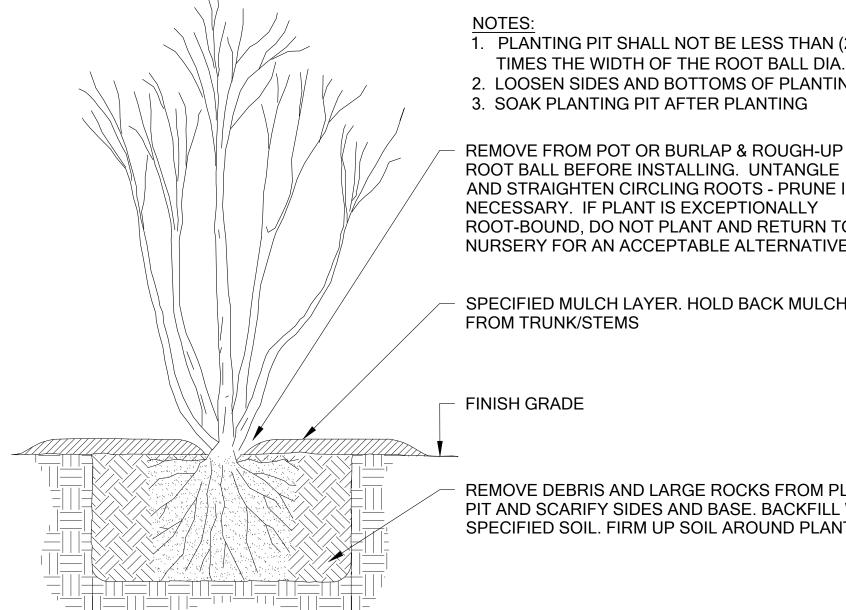
- 1. PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO OR MORE SEVERE THAN THOSE OF THE PROJECT SITE.
- PLANTS SHALL BE TRUE TO SPECIES AND VARIETY OR SUBSPECIES. NO CULTIVARS OR NAMED VARIETIES SHALL BE USED UNLESS SPECIFIED AS SUCH.

## QUANTITIES

SEE PLANT LIST ON ACCOMPANYING PLANS AND PLANT SCHEDULES.

## **ROOT TREATMENT**

- CONTAINER GROWN PLANTS (INCLUDES PLUGS): PLANT ROOT BALLS MUST HOLD TOGETHER WHEN THE PLANT IS REMOVED FROM THE POT, EXCEPT THAT A SMALL AMOUNT OF LOOSE SOIL MAY BE ON THE TOP OF THE ROOTBALL.
- PLANTS MUST NOT BE ROOT-BOUND; THERE MUST BE NO CIRCLING ROOTS PRESENT IN ANY PLANT INSPECTED.
- ROOTBALLS THAT HAVE CRACKED OR BROKEN WHEN REMOVED FROM THE CONTAINER SHALL BE REJECTED.



- 1. PLANTING PIT SHALL NOT BE LESS THAN (2)
- 2. LOOSEN SIDES AND BOTTOMS OF PLANTING PIT
- 3. SOAK PLANTING PIT AFTER PLANTING

REMOVE FROM POT OR BURLAP & ROUGH-UP ROOT BALL BEFORE INSTALLING. UNTANGLE AND STRAIGHTEN CIRCLING ROOTS - PRUNE IF NECESSARY. IF PLANT IS EXCEPTIONALLY ROOT-BOUND, DO NOT PLANT AND RETURN TO NURSERY FOR AN ACCEPTABLE ALTERNATIVE

SPECIFIED MULCH LAYER. HOLD BACK MULCH FROM TRUNK/STEMS

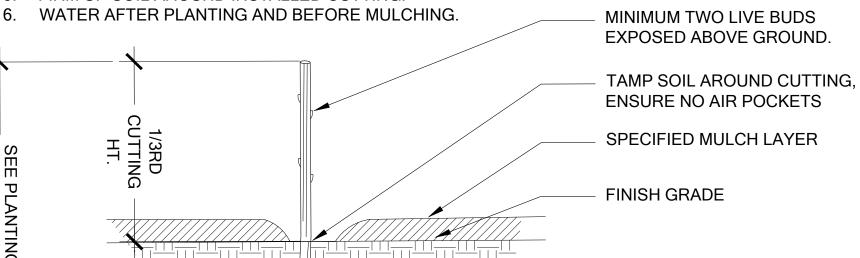
REMOVE DEBRIS AND LARGE ROCKS FROM PLANTING PIT AND SCARIFY SIDES AND BASE. BACKFILL WITH SPECIFIED SOIL. FIRM UP SOIL AROUND PLANT

🖊 🖊 2X MIN DIA. ROOTBALL 🦳

# TREE AND SHRUB PLANTING

Scale: NTS

- 1. INSTALL HARDWOOD CUTTINGS DURING THEIR DORMANCY. DO NOT ALLOW THEM TO DRY OUT.
- 2. CUTTINGS SHALL BE  $\frac{3}{4}$ " TO 1" IN DIAMETER OR APPROVED
- 3. INSTALL TO MIN. 2/3RDS DEPTH INTO SOIL. USE TRIANGULAR SPACING, SEE PLANTING SCHEDULE FOR SPACING.
- 4. INSURE THAT BUDS ARE POINTING UP.
- 5. FIRM UP SOIL AROUND INSTALLED CUTTING



**SOIL AMENDMENTS AS** SPECIFIED

FORM PILOT HOLE W/ ROCK BAR. REBAR OR OTHER PLANTING TOOL. DO NOT HAMMER OR POUND IN **CUTTINGS UNLESS APPROVED** BY RESTORATION SPECIALIST.

ANGLE CUT AT BASE

LIVE STAKE PLANTING

Scale: NTS

NOT FOR CONTRACTOR BIDDING

PERMIT SE

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SHEET SIZE:

ORIGINAL PLAN IS 22" x 34". SCALE ACCORDINGLY. PROJECT MANAGER:KMB DESIGNED: KMB

DRAFTED: **KMB** CHECKED: RW/NL/KB JOB NUMBER: 160642

SHEET NUMBER:

## MITIGATION PLAN NOTES

#### Project Summary

Primrose Daycare is leasing space in the Bellefield Office Park, located at 1150 114th Avenue SE in the City of Bellevue, Washington. An outdoor enclosed play area is needed to augment the existing building space for daycare operations. Primrose Daycare proposes to construct a 5,965 SF playground over existing parking lot and lawn area. The project area is completely encumbered by wetland buffers. This plan seeks to enhance degraded wetland and buffer area adjacent to the Mercer Slough at a one-to-one mitigation-to-impact ratio. The combined wetland/shoreline buffer has a high potential for enhancement since the area contains invasive species and generally lacks vegetative structure. The proposed wetland and buffer enhancement plan includes removal of lawn and invasive plants and installation of a native plant community.

## Goals

- Establish dense and diverse native vegetation that is appropriate to the ecoregion and site within the proposed enhancement area.
- 2) The enhancement area will remain substantially vegetated with a preponderance of native plants and will reduce reed
- Increase habitat cover and refuge for amphibians, small mammals and invertebrates and foraging and perching opportunities for birds.

#### Performance Standards

The standards listed below shall be used to judge the success of the installation over time. If performance standards are met at the end of Year 5, the site will then be deemed successful and any performance security bond will be eligible for release by the City of Bellevue.

- 1) Survival:
  - a. Achieve 100% survival of installed container plants and at least 50% survival of installed live stakes by the end of Year 1. This standard can be met through plant establishment or through replanting as necessary to achieve the
  - b. Maintain at least 50% survival of installed live stakes in Years 2 through 5.
- Native cover:
- a. Achieve 40% cover of native shrubs and sapling trees by Year 3. Native volunteer species may count towards this cover standard.
- b. Achieve 60% cover of native shrubs and sapling trees by Year 5. Native volunteer species may count towards this
- Species diversity: Establish at least three native tree species, five native shrub species, and three native groundcover plants by Year 5. Native volunteer species may count towards this standard.
- 4) Invasive cover: With the exception of reed canarygrass, aerial cover for all non-native, invasive and noxious weeds will not exceed 10% at any year during the monitoring period. Reed canarygrass shall be kept clear of the drip-line or 18-inch radius of installed plants, whichever is greater. Invasive plants in the mitigation area include, but are not limited to Himalayan blackberry (Rubus armeniacus), cut leaf blackberry (Rubus laciniatus), and reed canarygrass (Phalaris arundinacea).

## Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time and to measure the degree to which it is meeting the performance standards outlined elsewhere in this document.

An as-built plan will be prepared by the restoration professional (Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects) prior to the beginning of the monitoring period. The as-built plan shall be a mark-up of the planting plan included in this plan set. The as-built plan will document any departures in plant placement or other components from the proposed plan.

During the as-built inspection, the monitoring restoration professional shall install at least three 50-foot long monitoring transects. Representative photo points will also be established. Approximate transect and photo point locations shall be marked on the as-built plan.

All other planted areas not directly covered by established transects will be visually assessed and noted as to how they are meeting the performance standards.

Monitoring shall take place twice annually for five years. During each year, there shall be a spring and a late summer or fall visit. Year 1 monitoring shall commence in the first spring subsequent to installation.

The spring monitoring visit will record maintenance needs such as plant replacement and weeding needs. Following the spring visit the restoration professional will notify the owner and/or maintenance crews of necessary early growing season maintenance. The second annual monitoring visit will contain the bulk of the site assessment and will take place in the late summer or early fall. The late-season formal monitoring visit shall record and report the following in an annual report submitted to the City of Bellevue:

- General summary of the spring visit and documentation of completed maintenance tasks as applicable.
- Year 1 counts of live and dead plants by species.
- Counts of dead plants where mortality is significant in any monitoring year.
- Estimate of native woody cover using the line intercept method along the established transect in planted areas.
- Estimate of native woody cover using the cover class method site-wide.
- Estimate of non-native, invasive weed cover using the cover class method site-wide.
- Tabulation of established native species, including both planted and volunteer species.
- Photographic documentation from established photo points.
- 9) Any intrusions into or clearing of the planting areas, vandalism or other actions that impair the intended functions of the mitigation area.
- 10) Recommendations for maintenance or repair of any portion of the mitigation area.

#### Construction Notes and Specifications

Note: specifications for items in bold can be found below under "Material Specifications and Definitions."

Note: The Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects, shall monitor:

- 1) All site preparation
  - a. Soil preparation.
- b. Mulch placement.
- 2) Plant material inspection
- a. Plant material delivery inspection.
- b. 50% plant installation inspection.
- c. 100% plant installation inspection.

## General Work Sequence

- 1) All plant installation is to take place during the dormant season (October 15th March 1st), for best survival.
- 2) Ensure that the boundary of Wetland C is marked in the field prior to the beginning of construction activities.
- 3) Till in sod, and remove other undesirable plants to ground. Ensure planting areas are free of invasive weeds prior to soil preparation (see details on Sheet W3). Follow approved protocols and BMPs of the King County Noxious Weed Control Program (http://www.kingcounty.gov/weeds) for removal of listed invasive species, including Himalayan blackberry (Rubus armeniacus) and reed canarygrass (Phalaris arundinacea).
- a) Himalayan Blackberry Removal Protocol:
- i. For first year plants, hand-pull the stem closest to the ground and uproot the root ball
- ii. Removal mature stems by mowing or mechanical removal. Mechanized work should be carried out so as to minimize erosion and prevent sediment-laden runoff from entering the slough.
- iii. Dig up root crowns and major side roots. Remove root fragments and stems.
- iv. Dispose of all removed vegetative material offsite.
- b) Reed Canarygrass Control Protocol:
- i. Cut reed canarygrass down to grade
- ii. Remove reed canarygrass, including root mat, in circular plots where live stake clusters will be installed. Take care not to alter wetland soil condition or gradient.
- iii. Dispose of all removed reed canarygrass and root material offsite.
- 4) Amend soil as needed, outside of wetland areas and at the direction of the Restoration Professional, by applying a 2-inch layer of compost and rototilling to a depth of 12 inches until thoroughly combined. Within the drip line of trees to remain, hand till to combine as feasible, taking care not to damage tree roots.
- 5) Install a 4-inch deep layer of wood strand mulch over all planting areas outside of the wetland. Hold back mulch from stems of new plants and stems of existing plants to remain.

#### Material Specifications and Definitions

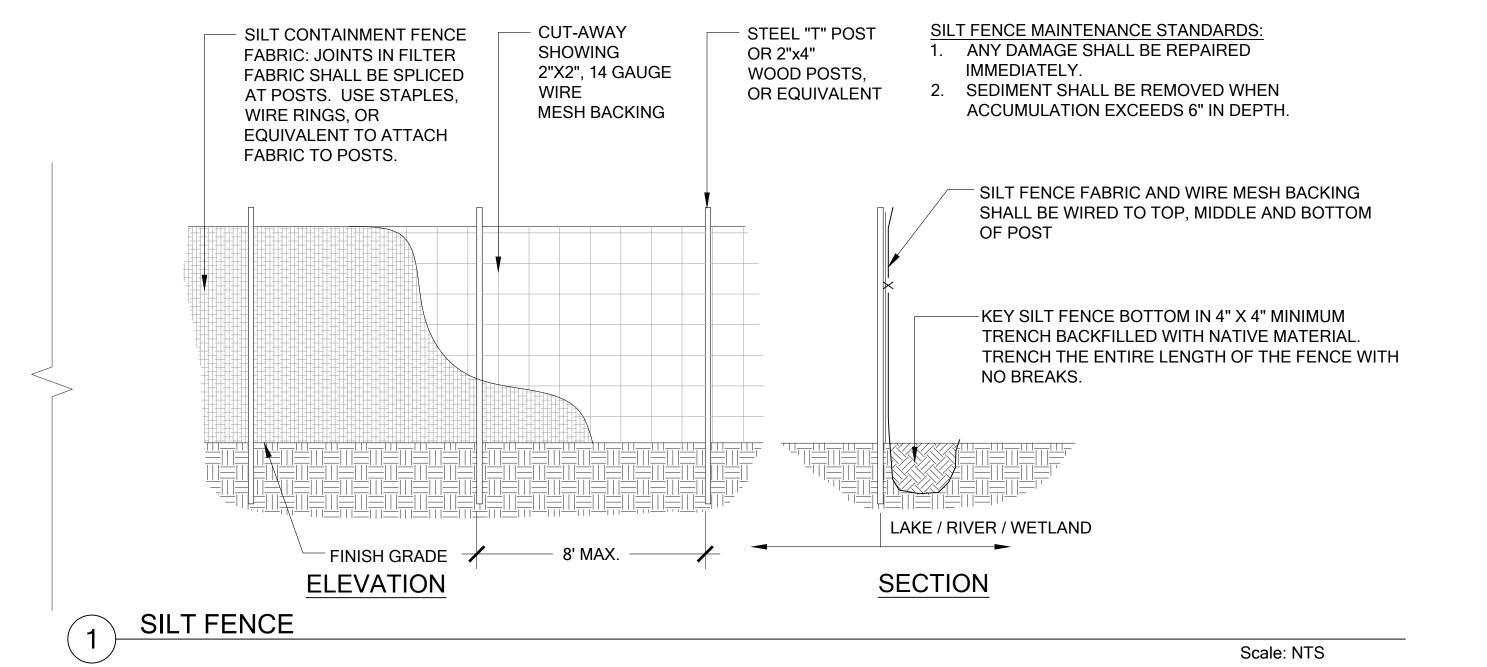
- 1) Fertilizer: Slow release, granular PHOSPHOROUS-FREE fertilizer. Follow manufacturer's instructions for application. Keep fertilizer in a weather-tight container while on site. Note that fertilizer is to be applied only in Years two, three, four and five and not in the first year.
- 2) Irrigation system: Automated system capable of delivering at least two inches of water per week from June 1 through September 30 for the first two years following installation.
- 3) Restoration Professional: Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects.
- Wood strand mulch:
  - a) Wood strand mulch shall meet WSDOT Standard Specifications for Road, Bridge, and Municipal Construction for Wood Strand Mulch as defined 9-14.4(4). "Wood strand mulch shall be a blend of angular, loose, long, thin wood pieces that are frayed, with a high length-to-width ratio, and it shall be derived from native conifer or deciduous trees. A minimum of 95 percent of the wood strand shall have lengths between 2 and 10 inches. At least 50 percent of the length of each strand shall have a width and thickness between 1/16 and 1/2 inch. No single strand shall have a width or thickness greater than 1/2 inch. The mulch shall not contain salt, preservative, glue, resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood chips or shavings will not be acceptable. The contractor shall provide Material Safety Data Sheet (MSDS) that demonstrates that the product is not harmful to plant life and a test report performed in accordance with WSDOT Test Method 125 demonstrating compliance to the specification prior to acceptance;
- 5) Compost: Compost shall meet WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, 9-14.4(8) for Fine Compost.

#### Contingencies

If there is a significant problem with the restoration areas meeting performance standards, a contingency plan will be developed and implemented. Contingency plans can include, but are not limited to: soil amendment; additional plant installation; and plant substitutions of type, size, quantity, and location.

The site will be maintained in accordance with the following instructions for five years following completion of the construction.

- 1) Follow the recommendations noted in the previous monitoring site visit.
- 2) Replace each plant found dead in the first summer monitoring visit during the upcoming fall dormant season (October 15 to March 1).
- 3) General weeding for all planted areas:
  - a. At least twice yearly, remove all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur at least twice during the spring and summer. Frequent weeding will result in lower mortality, lower plant replacement costs and will increase the likelihood that the plan meets performance standards by Year 5.
  - b. More frequent weeding may be necessary depending on weed conditions that develop after plan installation.
- c. Do not weed the area near the plant bases with string trimmer (weed whacker/weed eater). Native plants are easily damaged or killed, and weeds easily recover after trimming.
- 4) Apply slow release granular fertilizer to each installed plant annually in the spring (by June 1) of Years two through five.
- 5) Replace mulch as necessary to maintain a 4-inch-thick layer, retain soil moisture and limit weeds.
- 6) The property owner shall ensure that water is provided for the entire planted area with a minimum of 1 inch of water provided per week from June 1 through September 30 for at least the first two years following installation.





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Science & Design

YCARE SE IMRO

SHEET SIZE: ORIGINAL PLAN IS 22" x 34". SCALE ACCORDINGLY. PROJECT MANAGER:KMB KMB

MITIGATION PLAN NOTES

**DESIGNED:** DRAFTED:

**KMB** 

CHECKED: RW/NL/KB JOB NUMBER:

SHEET NUMBER:

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PERMIT SE

NOT FOR

CONTRACTOR

BIDDING